The RUBBER AGE

TWICE-A-MONTH

Vol. 21 SEPTEMBER 10, 1927 No. 11

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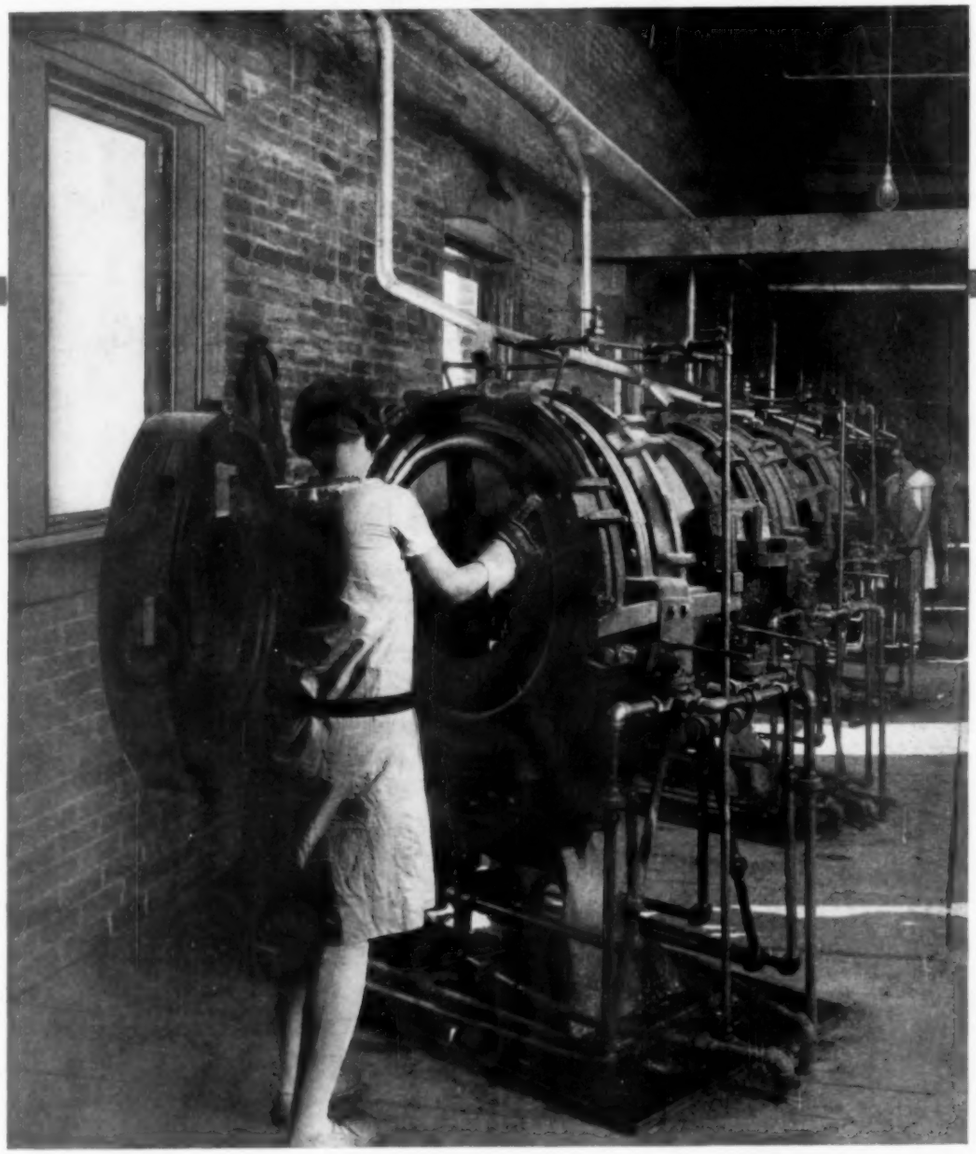

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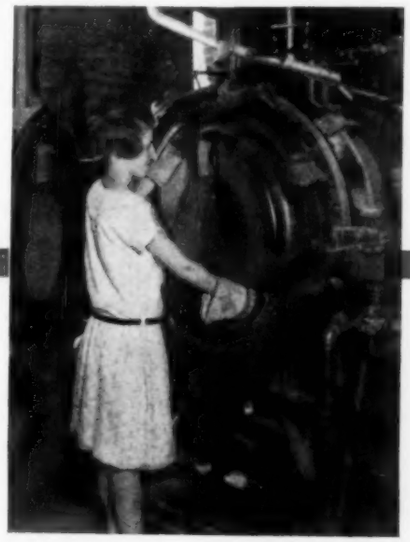

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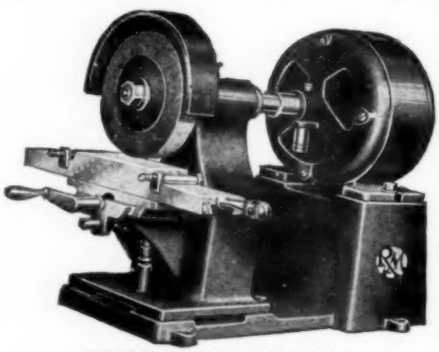

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The RUBBER AGE

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Congress Is Coming !

IT will be only a short time before a new Congress will assemble in Washington. General legislation appears to be so arranged that special legislation will have an unusually good chance to get plenty of Congressional attention. The rubber industry has a deep interest in many of the special legislative subjects which Congress is apt to take up. Waldon Fawcett, a close student of governmental matters, has interviewed several Congressmen on behalf of THE RUBBER AGE and reports what they have to say in this issue. Several special appropriations are pending in which the rubber industry will have an interest and Mr. Fawcett has outlined these and given some indication of how the legislators are apt to view them. The Philippines, and the problem of growing rubber there, are expected to get some real attention in the next session.

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The RUBBER AGE

VOL. 21 NO. 11 SEPTEMBER 10, 1927

Large Number of Chemists Attend Rubber Division Meetings

More Than 250 Chemists and Other Representatives of the Rubber Industry Hear Reclaimed Rubber Symposium on First Day of Detroit Conference— Proposal to Form Local Sections of the Division Finds Favor Among the Members

(By a Staff Correspondent)

DETROIT, Sept. 7—Chemists from all the country's leading industries, with a generous sprinkling of rubber chemists among them, detrained here this morning and started at once on the extensive series of meetings which the Divisional officers of the American Chemical Society have arranged for them. This gathering of the chemists in Detroit marks the 74th meeting of the A. C. S. and the 11th anniversary meeting of the Rubber Division.

Most of the rubber chemists arrived in this city this morning. Some 25 or 30 of the chemists from rubber companies and chemical houses located near New York came in on the Detroiter and Wolverine trains from that city. Chemists from Buffalo and Albany joined the train enroute so that the Eastern delegation arrived largely in one body. Most of the men from the Akron district also arrived this morning.

At the headquarters of the Rubber Division in the Book-Cadillac Hotel is was estimated that more than 250 rubber chemists and others interested in their work are attending the Rubber Division meetings which are being held in the same hotel. The Book-Cadillac and Statler hotels are serving as meeting places for the various divisions and the lobbies and public rooms are given over pretty much to them. A chemist certainly has no trouble finding a friend in either of these hostelries. The headquarters of the A. C. S. are at the Statler.

Although R. P. Dinsmore, chief chemist of the Goodyear Tire & Rubber Co., and chairman of the Rubber Division, was ready to start the proceedings on the scheduled hour of 10 o'clock, there was the usual difficulty in getting the members together for the first session and the meeting was begun somewhat late. Nevertheless, it was possible during the morning to hear the papers constituting the symposium on reclaimed rubber which was the most important part of the Division's program.

Like most of the Divisions, the program of the Rubber Division today called for a number of the most important papers with discussions of the problems they touched upon. Tomorrow morning the business meetings will be held, followed by the reading of other papers, excursions in the afternoon and the Divisional banquets in the evening. On Friday the remaining papers will be read.

Hotel Book-Cadillac

While all the reclaimed rubber papers were well received, those of W. W. Vogt on "The Value of the Rubber Hydrocarbon in Reclaim" and Norman A. Shepard, Henry F. Palmer and George W. Miller on "The Rate of Cure of Reclaimed Rubber" proved of the greatest interest. Mr. Vogt, a Goodyear chemist, told of recently-completed experiments in which a series of tire tread stocks containing varying amounts of reclaim were compounded in such a manner that the ultimate composition of all the stocks was the same. The only variable was the percentage of reclaimed rubber hydrocarbon substituted for new rubber hydrocarbon. Cures were adjusted to give the technical optimum in the same time of cure. The cured stocks were subjected to tensile tests and to abrasion tests by five different methods. The results, Mr. Vogt reported, showed that the value of the reclaim rubber hydrocarbon varied from zero, when substituted in small percentages, up to a maximum of 50 per cent of the value of new rubber when compounded in large percentages.

The paper of Messrs. Shepard, Palmer and Miller, of the Firestone and Xylos companies, was a study of the more rapid rate at which reclaimed rubber vulcanizes as compared to new rubber. Experiments have proven that the rapid rate of cure of reclaim cannot be explained either by the influence of the residual alkali in the reclaim or the effect of the heat treatment.

(*Continued on next page*)

Since the rapid rate of cure influences the aging characteristics of a stock, some method of compensating for it is necessary. The authors of the paper undertook to suggest some ways in which this might be done. This close approach to a problem that every user of reclaim has encountered assured the paper the most interested reception.

The reclaimed rubber symposium included three other papers, the most basic of them being P. S. Shoaff's "Factors in Processing Reclaimed Rubber." This included comparisons of the types of equipment for reclaiming plants. The author's deductions were based principally on work done in the reclaiming division of the Goodyear Tire & Rubber Co., with which he is connected.

Business Meeting to Follow

The other papers to be read before the Rubber Division, as announced in the program appearing in the August 25th issue of THE RUBBER AGE, include two on stretched rubber by Goodrich chemists. There will be 14 papers in all, including the symposium.

The Rubber Division's business meeting will be held tomorrow morning at which time officers for the coming year will be elected. Although it is customary for the vice-chairman to succeed to the chairmanship, it is practically assured that Mr. Dinsmore will be re-elected to head the Division for another year in order that he may carry out certain reorganization plans which he has outlined. H. L. Fisher, the present vice-chairman, will almost certainly be elected to succeed himself. Arnold H. Smith of the Rubber Service Laboratories Company, who has been secretary-treasurer of the Division since its organization, has announced that on account of business duties, he would prefer not to be re-elected. At the present moment, it is entirely uncertain who his successor will be.

In addition to the election of officers, the business meeting will consider the reorganization proposal referred to above. This embraces the establishment of local sections of the Division. Most of the chemists here look with favor on such a move and it will probably be ratified. Mr. Dinsmore has made a careful study of the advantages of such an arrangement and will explain them to the members. Three local sections and perhaps more would be established if the plan were adopted.

The excursions arranged for the chemists, the first of which will be taken tomorrow afternoon, include one to the plant of the Dow Chemical Company at Midland, Mich. This company is a well-known supplier of chemicals for the rubber industry and several of those in attendance here have announced their interest in such a trip.

A Special Section
NEWS of the INDUSTRY
Begins on Page 557

Bertram G. Work

B. G. WORK, GOODRICH HEAD, DIES IN EUROPE

President of B. F. Goodrich Co. Dies Suddenly in St. Moritz, Switzerland—Served 20 Years as President—Born on Staten Island in 1868.

Bertram G. Work, president of the B. F. Goodrich Company, of Akron, died suddenly of paralysis of the heart in the Palace Hotel at St. Moritz, Switzerland, August 30. Mr. Work went abroad alone a month ago for a vacation. He was 59 years of age, having been born on Staten Island, N. Y., January 9, 1868, a son of Alanson Work, one of the original incorporators of the B. F. Goodrich Company, who also became its vice-president and general superintendent.

As a boy Mr. Work attended the Williston Seminary in Massachusetts, and upon his graduation the family moved from Staten Island to Akron in 1880. He entered the Sheffield Scientific School at Yale, but because of the death of his father the son left college in his freshman year and entered the employ of the Goodrich company as a clerk. After only eighteen months of service he was made general superintendent, and soon after was elected vice-president. On the death of Col. George W. Perkins in 1907, Mr. Work was elected president. At the time of his death he had accordingly served the company for forty years, twenty of them as president.

Director of Many Companies

The early administration of Mr. Work was marked by the consolidation of the Diamond Rubber Company with the B. F. Goodrich Company and by the first serious entrance of the American rubber industry into the international field. During the war Mr. Work served as chairman of the rubber division of the War Service Committee. He was a director of the E. W. Bliss Company, Continental Caoutchouc and Gutta Percha Company, of Hanover, Germany, the Martha Mills, Inc., of Thomaston, Ga., and the American Anode, Inc. He was also a trustee of the Equitable Trust Company. Years ago Mr. Work was associated with Coburn Haskell in the invention of a golf ball that has had an important influence on the design and construction of the modern ball. He was president of the Rubber Association of America in 1918-1919, and has served on various committees of that organization.

Mr. Work is survived by a son, Bertram; two brothers, Fred and Gerald, of Akron; and two sisters, Mrs. Effie Geer, of New Rochelle, N. Y., and Mrs. Alice Wilcox, of Ithaca, N. Y. His wife, formerly Marion Sawyer, of East Hampton, Mass., died in 1923.

The Home of B. G. Work at Oyster Bay, Long Island, N. Y.

Abstracts of Chemists' Papers Read at Detroit

Rubber Chemists Cover Many Important Topics in Three Day Meeting, But Give Principal Attention to Reclaimed Rubber—Here is Resume of the Speakers' Conclusions

Abstracts of the papers which were read before the 11th anniversary meeting of the Rubber Division, American Chemical Society, in Detroit, September 7, 8 and 9, are given below, the abstracts having been prepared in each case by the authors of the paper. The abstracts are printed here in the order in which the papers were scheduled to be read at the meetings. The first five constitute a reclaimed rubber symposium. These reclaimed rubber papers, together with the sixth paper, were read and discussed the first day. The next four papers were scheduled for Thursday morning and the remaining four for Friday morning. Papers read before the Divisional meetings of the American Chemical Society become the property of the society, but, following their formal release, some of these will appear in full in THE RUBBER AGE.

PIGMENT REINFORCEMENT OF RECLAIMED RUBBER. Paper by H. A. Winkelmann and E. G. Croakman.

The reinforcing action of pigments on reclaimed rubber has been studied by compounding a whole tire reclaim with carbon blacks, zinc oxides, clays, barytes, whiting, etc. In view of the wide use of reclaimed rubber in all types of compounds, it is of considerable importance to know the effect of the various pigments on the physical properties of the manufactured product. The high degree of disaggregation of reclaimed rubber makes the choosing of pigments for maximum reinforcing value even more important than is the case with crude rubber. The order of effectiveness of the pigments is the same as that for crude rubber except that there is a wider gap between reinforcing and non-reinforcing pigments.

* * *

EFFECT OF USING HIGH SULFUR vs. LOW SULFUR IN VULCANIZING RECLAIM. Paper by R. E. Cartlidge and H. L. Snyder.

The writers are attempting to prove that there is an optimum percentage of sulfur to be used in connection with vulcanizing reclaimed rubber to give the best physical results. We have worked this out giving thought to obtaining maximum qualities out of reclaimed rubber on type compounds and on the straight reclaim itself. Particular stress is laid in this paper on the curing of tread compounds showing the effect of the different percentages of sulfur on the same time of cure.

* * *

THE VALUE OF THE RUBBER HYDROCARBON IN RECLAIM. Paper by W. W. Vogt.

A series of tire tread stocks containing varying amounts of reclaim were compounded in such a manner that the ultimate composition of all stocks was the same, the only variable being the percentage of reclaimed rubber hydrocarbon substituted for new rubber hydrocarbon. Cures were adjusted to give the technical optimum in the same time of cure. The cured stocks were subjected to tensile tests and abrasion tests by five different methods. The results show that the value of the reclaim rubber hydrocarbon varies from zero, when substituted in small percentages, up to a maximum of 50% of the value of new rubber when compounded in large percentages.

RATE OF CURE OF RECLAIMED RUBBER. Paper by Norman F. Shepard, Henry F. Palmer and George W. Miller.

Data are presented emphasizing the well-known fact that reclaimed rubber vulcanizes at a very much more rapid rate than new rubber, and also that even in small concentration in a new rubber stock it materially increases the rate of cure. Possible reasons for this are discussed and experimental evidence given to show the influence of the residual alkali in the reclaim, and the effect of the heat treatment in itself. Neither of these explains the rapid rate. The need for, and methods of, compensating for this rapid rate of cure in compounding with reclaimed rubber are discussed with special emphasis on the influence of the rapid rate of cure on the aging characteristics of a stock.

* * *

FACTORS IN PROCESSING RECLAIMED RUBBER. Paper by P. F. Shoaff.

Production of reclaimed rubber of uniformly good physical and chemical properties is dependent first upon judicious classification and blending of raw materials. Grinding to a state in which no large particles are present, but without an excess of fines, allows a minimum devulcanizing time at a given temperature, decreases the tendency to depolymerize to an objectionable extent, and reduces the requirement for softeners. These conditions facilitate farther processing to a smooth product of good quality with the desired plasticity and with optimum compounding, milling, calendering and tubing characteristics. Devulcanization at high temperatures tends to reduce slightly the tensile and to increase the elongation as compared with treatment at lower temperatures. "Alkali" reclaims require efficient washing to remove residual caustic and the recovery of fines from the wash liquors involves problems of settling and filtration or screening. Drying of wet-processed reclaims at high temperatures or for an excessively long time results in "tacky" products just as does over-devulcanization. A minimum amount of milling and refining at normal temperatures is desirable to preserve the quality, therefore previous processing should be thorough and uniform. Some comparisons of types of equipment are made and some desirable future developments are discussed.

(Abstracts Continued on Next Page)

Abstracts of Rubber Chemists' Papers

(Continued from Previous Page)

EFFECT OF CERTAIN METALLIC SALTS ON THE AGING OF A TREAD COMPOUND. Paper by Bert S. Taylor and Webster N. Jones.

The effect on aging of a tread compound produced by the addition of low concentrations of iron, copper, manganese and mercury salts of higher aliphatic organic acids was investigated. The data obtained from aging in the Bierer-Davis bomb show that the presence of the copper and manganese salts in very small concentrations is harmful to the aging of rubber. The bomb test at 70°C. was much more severe than the oven test at the same temperature.

* * *

AN ANALYSIS OF A TYPICAL ANGLE ABRASION MACHINE. Paper by W. W. Vogt.

The machine employed consists of a driven abrasive wheel, the rubber test piece in ring form being pressed against the flat face of the wheel in such a manner that the plane of the ring makes an angle with the tangent of the abrasive wheel at the spot of contact. Provision is made for measuring the power consumed in abrasion by a Prony brake method. This angle machine is essentially a constant power machine. The relationship between abrasion loss and time, load, speed, angle, power consumption, etc., are given. An analysis of the forces involved is also given.

* * *

EFFECT OF AMPHOTERIC METALLIC SALTS ON RUBBER. Paper by H. W. Winkelmann and Webster N. Jones.

Isomers of rubber have been prepared by heat treatment with certain anhydrous salts of amphoteric metals (Jones and Winkelmann, Canadian patent 267,116, (1926). These products have greater heat plasticity and less chemical unsaturation than rubber. The nature of the product obtained may be controlled by varying concentration, time, and temperature of treatment, as well as the character of the reagent. These isomers, depending upon condition of preparation, are soft resembling chicle, tough resembling gutta-percha, or hard and brittle resembling shellac.

* * *

A HARDNESS TESTER FOR RUBBER. Paper by E. C. Zimmerman and Roy W. Brown.

An instrument has been developed for measuring the hardness or penetration of vulcanized rubber. This device consists of steel rod with a spherical point under pressure of a coiled spring, mounted in a suitable case with a gage graduated in thousands of an inch. The total motion of the steel rod is 100 divisions on the gage or 1/10 inch. This instrument has been tested out thoroughly over a period of several years and found to be reliable, accurate, convenient to operate, and to give results which are reproducible.

* * *

EFFECT OF OZONIZED OXYGEN ON STRETCHED RUBBER. Paper by F. L. Haushalter and Webster N. Jones.

The cracking of rubber can be accelerated by subjecting it when stretched to the action of ozonized oxygen. Unstressed rubber tensile strips subjected to the action of ozonized oxygen continuously for eighteen hours did not change much in tensile, but when stretched even a very small amount they cracked very quickly. The very interesting observation was made that there is a critical elongation for each compound at which it deteriorates most rapidly.

* * *

AGING OF STRETCHED RUBBER. Paper by Arthur Kelly, Bert S. Taylor and Webster N. Jones.

Vulcanized rubber under stress ages more rapidly than unstressed rubber. The sunlight aging of a number of stocks under tension has been investigated. In the case of a pure gum stock sunlight aging was compared with Geer oven, Bierer bomb, and ultraviolet light aging. The rate of deterioration of stretched rubber is not proportional to the degree of stretch in the early stages of exposure to sunlight. There appears to be a critical elongation for each stock at which the deterioration progresses more rapidly than any other.

* * *

AN ANALYSIS OF NATURAL AND ARTIFICIAL AGING OF RUBBER. Paper by W. W. Vogt, L. B. Sebrell and S. M. Martin, Jr.

The natural aging of rubber is considered as an oxidation, an after vulcanization, and a colloidal phenomenon. Data are given to show the effect of these actions separately insofar as this is possible. The effect of the natural antioxidant, the effect of free and combined sulfur on the rate of oxidation, and the secondary antioxidant effects of accelerators are discussed. Some data relative to after vulcanization are presented and a study of various standard methods of artificial aging is made with reference to the factors which are predominant.

* * *

EFFECT OF HEAT ON RUBBER. Paper by C. R. Park, C. M. Carson and L. B. Sebrell.

The effect of heating crude rubber at 158°C. under pressure has been studied as to the effect upon plasticity, rate of cure, physical properties, chemical characteristics, and chemical constitution of the non-rubber constituents. It is shown that hydrolysis takes place, causing an increase in rate of cure in some cases and a slowing up in others, depending upon the type of rubber and the accelerator used. A change in shape of the stress-strain curve is noted, also a change in the nitrogen distribution and an increase in the acid number. The effect on aging is negligible. Investigation of the water extract of hydrolyzed rubber led to the isolation of several fractions having marked accelerating and activating effects. The action of various plant substances during the cure was investigated.

Tire Size Simplification

AS the result of an inquiry directed to the principal tire manufacturers in the United States by the Department of Commerce relative to tire sales data covering a period of three and one-half years, it has been shown that certain tire sizes have gained heavily in popularity during this period while others have lost popularity. Also, an analysis of the data obtained during these three and one-half years reveals how certain sizes have come into the picture as original equipment for one year only to fade out the next year and thereafter become a liability to the car owner.

From 1924 to 1927 inclusive, only three tire sizes have held a place among the ten most popular sizes throughout this period. They are sizes 31x5.25, 33x6.00 and 30x5.25. The 29x4.40 has held first place in 1925 and '26 and thus far in 1927. The 29x4.75 stood sixth in 1926 and is in third place this year. Size 32x6.00 has moved up from ninth place to sixth place in the same period.

The Department of Commerce points out that it would seem logical in any proposed simplification plan to perpetuate these six sizes. As for the other sizes appearing for the first time in 1927, such as the 31x5.00, 28x4.75, 31x6.00 and 30x6.00, their permanence is still much in doubt. The high mortality in this list of original equipment sizes has thrown a great burden on the tire dealer in keeping up his replacement stock and getting a reasonable turnover. The car owner in many instances have been subjected to a great deal of unnecessary bother, trouble and expense because of the relative unavailability of the numerous odd and unstandardized sizes. Certainly this ever-changing variety brings its problems to the tire manufacturer, says the Department, and we may well question if this high frequency of change has been worth its cost in customer-dissatisfaction to the motor car manufacturer.

Referring to the present diversity of balloon sizes in particular, the Department points out that the motor car manufacturer has a splendid opportunity to render great service to the public and tire dealers by establishing a relatively permanent simplified list of sizes as the basis of future original equipment.

Legislation in the New Congress of Interest to the Rubber Industry

Special Legislation, Including Many Issues Affecting the Rubber Industry, Will Have an Unusually Clear Track in the Coming Session at Washington

By WALDON FAWCETT

Photos U. & U.

(Above) Representative Walter H. Newton, of Minnesota.

(Left) Representative Edgar R. Kiess, of Pennsylvania.

A NEW Congress, showing many changes in personnel over its predecessor, will take up the legislative burden at Washington this autumn. There is, in this prospect, more than the usual amount of interest for the rubber industry because conditions in the 70th Congress bid fair to be peculiarly favorable to enterprises in lawmaking that will directly or indirectly affect the rubber industry in various ways. Several influences combine to promise more than a normal number of reactions for the rubber manufacturers.

First of the favorable factors is the circumstance that the initial sitting of the 70th Congress will be its "long" session, extending, presumably, from December until May or June. The latitude allowed is proportionately favorable to legislation that is not of a routine character and must await its turn after the annual appropriation bills and other imperative items.

A second contributory influence is seen in the fact that the new Congress should require a minimum time for organization. There are, to be sure, many changes in the rank and file of membership. But the dominant party continues to have sufficient majorities in both Senate and House to retain the reins. Furthermore, the new alignment brings very few changes in the leadership of the Committees where the real work of Congress is done, notably, Committees such as the Commerce groups, which have jurisdiction over so many of the matters of most intimate concern to rubber companies.

But after all, there is one justification, above all others, for the expectation that the next Congressional session will prove to be an open season for business legislation of all kinds. This lies in the fact that there are on the Congressional horizon very few responsibilities in the form of general legislation to crowd aside special legislation. And in the category of special legislation are most of the issues that are of intimate significance to rubber circles.

A perennial major issue that will be in abeyance this year is the tariff. The dominant party is not anxious to open this controversial issue on the eve of a Presidential campaign. The same reluctance will apply to immigration control, national prohibition, etc. Major issues that cannot be avoided include agricultural relief, Mississippi River flood control, and Federal tax reduction. In this last, the rubber industry has an interest, both on the score of its own pocketbook and in the effect on the purchasing power of the general public. While a slash in the tax bill is as good as assured, it will be necessary to reconcile a sharp cleavage of opinion in Congress as to whether the cut should be deepest in the direction of personal income and corporation rates or in the quarter of special taxes, such as the so-called "nuisance" taxes.

Curiosity in rubber circles with respect to the intentions of the new Congress will probably focus first upon legislation dealing with the Philippines. Congressman Edgar R. Kiess, of Pennsylvania, Chairman of the House of Representatives Committee on Insular Affairs, is confident that the 70th Congress will add to the statutes dealing with the Philippines, but he is not yet ready to go into details on this prediction. Representative Kiess informs the writer that he will reintroduce, at the opening of the new Congress, the bill which was known as H.R. 16868 in the last Congress.

The primary purpose of this bill is to clarify and amend existing laws relating to the powers and duties of the auditors for the Philippine Islands. Bound up with this are other projects that have meaning for members of the rubber industry. Conspicuous in the supplementary list is a provision that internal revenue collected in the United States on Philippine products sold therein shall constitute a Special Philippine Fund in the U. S. Treasury which shall be expended for the welfare of the islands. One contemplated result of the provision of this fund would be the

Constant Defender of Rubber's Interests

Representative Martin L. Davey

This Congressman comes from Kent, Ohio, a few miles from Akron. His fellow-members know that a mention of rubber means a speech by Davey

appointment of a Technical Advisor qualified to advise the Governor General of the Philippines on all questions having to do with the rubber trade of the islands and the development of the rubber resources of the Philippines.

It is possible that a single specialist would have to take the role of technical expert on hemp and other Philippine products as well as on rubber. However, it is the idea of the head of the Insular Affairs Committee that if this advisor acted in close cooperation with the officials of the Departments of Commerce and of Agriculture at Washington he could give valuable counsel to the Governor General on all policies involving supervision and development of agriculture and natural resources. While Representative Kiess is anxious to do anything within the power of his committee to foster rubber production in the Philippines, he holds that the Philippine legislature, and only that body, has authority to make changes in the laws of the islands which would permit the ownership of the large tracts of land that are essential if rubber cultivation is to be carried on in any large scale.

The crude rubber situation will not enlist the special attention of the 70th Congress, as it did that of the 69th Congress, unless fresh developments occur to warrant it. This, in substance, is the prediction made by the member who might be denominated the rubber mentor of the House. Because the House Committee on Interstate and Foreign Commerce has assigned to it, for anaysis and report, bills dealing with so many different phases of commerce, it is deemed necessary to subdivide the work, assigning specific lines to individual members or groups of committeemen. In accordance with this plan of assignment, Representative Walter H. Newton, of Minnesota, was delegated in the 69th Congress to take charge of all the rubber legislation referred to the Committee. According to the present plan he will continue in this relationship in the new Congress, the Commerce Committee having the same Chairman as hertofore and having undergone few changes in personnel.

Pending the organization of the new Congress, Representative Newton very naturally hesitates to undertake to speak for the Committee, but giving his personal views for THE RUBBER AGE he ventured the opinion that unless something unforeseen develops in the meantime, the crude rubber question will not be reopened in the Interstate Commerce Committee during the coming session. Rubber market conditions will dictate Congressional policy. Mr. Newton feels that if the price of crude rubber is moderate or shows a downward trend there will be no reason for the Committee to give further consideration to the crude rubber situation during the coming session.

The rubber industry has a particular interest in the energetic drive launched some months ago for the purpose of extending the scientific and technical research work of the U. S. Department of Agriculture. This ambition will find expression in the Agricultural Appropriation Bill or supply bill which will be submitted to Congress early in 1928 for the purpose of providing funds to operate the Department during the fiscal year beginning July 1, 1928. In view of the active interest which Secretary Herbert Hoover has evidenced in the development of adequate sources of raw material, reasonably priced, for the American rubber industry, it may be surmised that the rubber manufacturers have a definite interest also in the degree of generosity which the new Congress will show with respect to the trade expansion program of the Department of Commerce.

Next year's appropriations will be awaited with all the more interest because of suggestions which have lately been brought to Washington for a "Commodity Survey" covering the domestic rubber trade. A "commodity survey" is designed to study the production and distributive system of an industry with an eye to the discovery of larger outlets for the product, either through the uncovering of overlooked markets, or the development of new uses for the goods. Special explorations of specific markets, according to this new pattern, have already been carried out in the case of electrical supplies, paint and varnishes, and several other lines. Rubber is entitled to its turn, but the urge must come from within the industry, because Uncle Sam has more applications for this new research service than he can accommodate.

What a Rubber Survey Would Cost

A survey of the rubber industry would probably cost upward of $10,000. It would be carried out by the Rubber Division of the U. S. Bureau of Foreign and Domestic Commerce in cooperation with the Division of Domestic Commerce. Specific enumeration of the rubber line would not be carried in the item in the annual Appropriation Bill covering the year's commodity surveys. It is permissible, however, for members of the rubber industry to ask the Appropriations Committee to vote a general fund with a confidential understanding with the Department that rubber products would be one of those scheduled for attention. A precedent for a commitment of that kind was made last year when leaders of the confectionery industry carried their plight direct to Congress and obtained the promise of a commodity survey.

All those marketing rubber specialties sold under trade mark, brand or trade name are likely to find one of the high lights of the 70th Congress in the presentation of a new version of the "price maintenance" program. The reappearance of this issue gains in significance from the fact that this fresh plan to legalize the fixing and enforcement of resale prices originates in authoritative sources within Congress, rather than in the business world. The proposition to provide protection against price cutting has been before Congress for twenty years. But it has made slow progress because of the hopeless division of opinion in business circles. A majority of the manufacturers and

(*Continued on Page* 546)

PARA-FLUX

(Reg. U. S. Patent Office—U. S. Patent No. 1,611,436)

The Universal Softener

Consider Your Materials—

They are STANDARDIZED Products

Rubber—rigidly inspected, definitely classed.
Zinc—branded, uniform.
Carbon Black—Sulphur—Accelerators

All *guaranteed* and *specification* materials.

Apply the Same Principles to Softeners

PARA-FLUX—Standardized—Uniform
Manufactured to Specification

You Can Depend on PARA-FLUX

A Product of

The C. P. Hall Company

AKRON OHIO

Clay
Whiting
Sulphur

STABILITE

Stearic Acid
Carbon Black
Mica

Legislation in the New Congress

(*Continued from Page* 544)

the independent retailers have been ranged on one side. Opposed to them, stand most of the managers of chain store systems, the mail-order houses, and the department stores that attract trade by "loss leaders" priced in odd figures.

The 70th Congress has opportunity for a flying start on this problem of price stabilization, thanks to preliminaries in the 69th Congress. Last year a special subcommittee of the House Committee on Interstate and Foreign Commerce was appointed to consider this subject. The last Congress adjourned before the subcommittee could report. But, out of that project, has come a substitute bill, designed to replace the Capper-Kelly Bill. The new bill clarifies some obscure provisions of the old measure and adds other clauses. For instance, it gives the manufacturer better control of his prices by allowing him to impose his will on the vendee of his vendee as well as on his immediate vendee. On the other hand, the public interest is more fully safeguarded by prohibition of price fixing on goods not open to competition. And authority is given to merchants to sell at less than the prices agreed upon, in an emergency, as when, for example, a dealer desires to close out his stock, retire from business, or dispose of damaged or deteriorated wares.

Truth-in-Fabrics Bill to Reappear

Producers and marketers of rubberized fabrics may be surprised to hear that the Truth-in-Fabrics bill will reappear in the 70th Congress. Textile interests believed that they had, in the 69th Congress, killed beyond resurrection this project designed to compel all fabrics and made-up garments to carry labels showing the percentages of the different ingredients entering into the composition of the fabrics. But Senator Capper tells the writer that he intends to reintroduce the bill and hopes to have it promptly reported out of committee. "Pure Fabrics" legislation will have influential backing in Congress including that of the so-called Farm Bloc or "farmer vote." The fabrics proposal is but a part of a broad ambition for compulsory interpretative labeling, known as the Truth-in-Products movement. Rubber goods have not, so far, been singled out for attention. But it is conceivable that the reformers who want a "Genuine Leather" Bill may aspire next to prescribe by law what constitutes "Pure Rubber." It is not forgotten that certain Representatives suggested last year that tires should be branded to show the percentage of reclaimed rubber they contain!

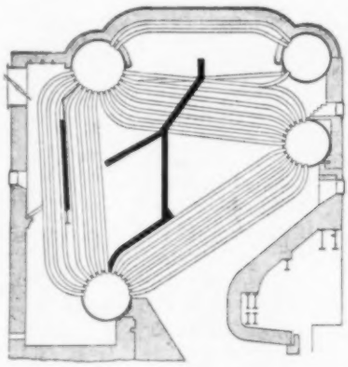
Revision of the postage rates, defeated in the filibuster at the close of the 69th Congress, will be pressed for attention early in the 70th Congress. Certain of the proposed concessions will almost certainly be approved—notably the restoration of the old rates on third class mail and and the one-cent fare on private mailing cards. Trade associations in the rubber industry will be asked to join with other national organizations in the effort to have Congress detach the U. S. Trade Mark Division from the U. S. Patent Office and set it up as a separate bureau, thereby assuring quicker and better service to brand owners.

A "left over" from the 69th Congress which will rebound in the 70th Congress is the bill to revise and consolidate the trade mark laws of the nation. The provisions of this bill have already been reviewed in THE RUBBER AGE. A twin project, that to provide better protection for original designs in industry, has a future less assured.

Schaphorst's CHATS *with the* ENGINEER

By W. F. SCHAPHORST, M.E.

MOST engineers in rubber plants know that there has been a vast improvement in the baffling of horizontal boilers during recent years, but it is not commonly known as yet that vertical boilers can also be improved by the modern method of baffling. Baffling is now as much of a science as is the building of boiler walls, furnaces, or the boilers themselves. Instead of following the tubes in the old way baffles are now made to cut through the various banks at any angle that may be most advantageous to highest efficiency. By modern methods of reinforcing and use of plastic fire resisting materials, baffles are being built out into the open spaces in positions and at angles that would have been considered impossible a few years ago. This is nicely shown in the accompanying diagram.



For example, an actual instance has just been brought to my attention where, in a vertical boiler, the changing of the baffling from its old-fashioned or standard position to a scientific position has been the direct cause of saving 7 per cent of the fuel. The change was a very simple one. Not only was 7 per cent of the fuel saved, but the percentage of CO_2 was increased to an average of about 12 per cent. This is a thing that every engineer should investigate.

Automatic Regulation Pays

Great conservation is resulting from the introduction of automatic machinery. During the past ten years, power plants have become almost automatic. One cannot always be at his best when eternally and monotonously watching a machine. In one particular plant recently visited the operator was found out in the back yard while the electrical end was regulating itself. The engine governor was taking care of the engine speed. The stokers were automatically firing the boilers. And boiler feed regulators were taking care of the feed water. Temporarily, everything was O.K., and the force had nothing to worry about.

Not only does automatic regulation make life more livable for the operators—it is a good investment as well. Take the boiler feed regulators alone, for example. An actual instance has recently been brought to my attention where a concern saved nearly $10,000 a year by installing automatic boiler feed regulators. They reduced the number of men needed in the boiler room. It is said that the total investment was much less than $10,000—so much less that the investment paid over 200 per cent interest the first year. They have 24 boilers of over 500 h.p. each. Besides, this $10,000 saving does not include the saving of coal that accompanied the better regulation that resulted from the installing of automatics. Yes, automatic regulation generally pays.

The Never-Ending Search for Rubber Substitutes

In Spite of the Lowered Price of Crude Rubber, the Many-Sided Attempt to Find A Substitute for Natural Rubber Continues—Both Old And New Possibilities Are Studied

ALTHOUGH the price of crude rubber is once more below forty cents per pound, the widespread attempt to find a rubber substitute, which began anew in 1925 when prices were high, continues with unlessened vigor. On all sides inventors are struggling with the problem. When lower rubber prices make the finding of a practical substitute less attractive, they are no doubt encouraged by the constant rumors that there will be a shortage of rubber within the next five years.

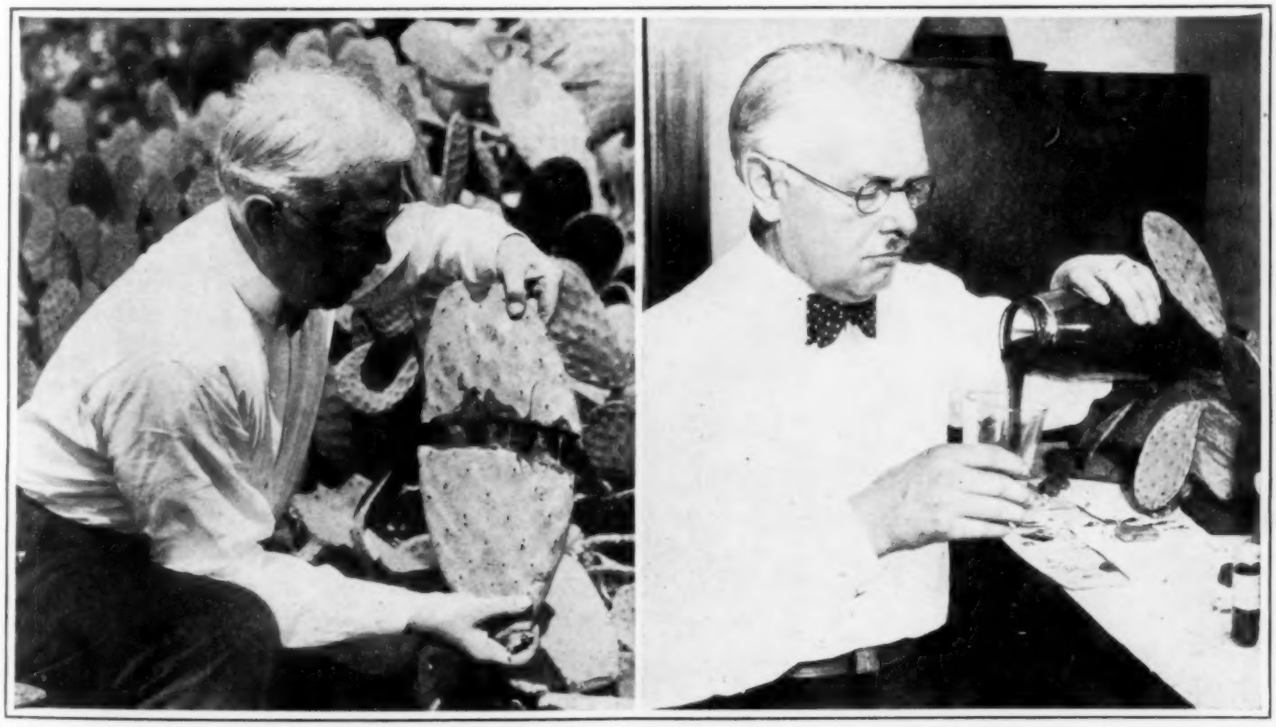
PRESENT LINES OF ATTACK

1. Rubber from Cactus.
2. Rubber from Clay.
3. Improved Reclaiming Process.
4. Really Practical Synthesis.

The latest effort to find a rubber substitute relates to the cactus plant. Dr. John C. Wichmann, of Los Angeles, has announced that he has discovered a process of turning the gummy juice of that plant into a substitute for rubber. The cactus lobes are macerated and cooked for a short time and a molasses-like gum is pressed from the mass. A chemical treatment of this gum is said to remove certain valuable by-products and leave a resilient material which can be substituted for rubber in certain lines of manufacture.

Cactus has been mentioned before as a source of rubber-like gum, but Dr. Wichmann appears to have carried the experiment further than anyone else who has worked with it. His efforts to prove the value of the plant are being continued. A large laboratory is being maintained in California and the inventor is confident that his discovery will make it possible to take advantage of the almost unlimited supply of cactus plants in the western part of the United States.

From Nevada there are coming reports of a peculiar clay, evidently containing some product related to petroleum, from which small samples of "rubber" have been



Two Views of the "Rubber from Cactus" Experiments

At the left Dr. Wichmann has cut a cactus lobe across and rubbed the raw edges together. When he draws them apart a gummy film clings to each piece. This film is the basis of the rubber substitute which he has produced. At the right the inventor is seen pouring some of the molasses-like gum which results from macerating and cooking the cactus. Subsequent processes are said to reduce the gum to a solid state, ready for use as a rubber substitute

made. The clay comes from a large deposit about 20 miles from Las Vegas and the rubber samples are said to be the result of experiments by a firm of Eastern chemists whose names were not revealed. An option on the deposit has been taken by the firm. The area covers several hundred acres and contains millions of tons of the clay. It is claimed that the clay contains a high percentage of rubber elements and that the samples of rubber made from it show unusual resilience.

The efforts to restore used rubber to a state where it can be used to a greater extent as a substitute for fresh, natural rubber continue not only in the laboratories of the established reclaimers but are shared by the private investigators also. The latest claim in this direction comes from a French firm, Caoutchouc Recupere "Reno," 8, rue Halevy, Paris, who say that by means of their new and patented process they are able to produce from old tires and other scrap a pure rubber of floating quality (average sp. g. 0.95) which will dissolve completely in benzene or carbon bisulphide, and lends itself to all uses, without exception, to which plantation crepe is at present put. Complete devulcanization is claimed for the "Reno" process, as it is called.

The French company is producing small quantities of the new reclaim in a factory at Muison (near Rheims) which they state is now able to fill sampling orders and will have an output of two tons of the product per day by the end of September and from three to four tons by the end of December. According to the *India Rubber Journal*, which appears to be justified in its open derision of the new process, the following unique description of the process is given in connection with the application for British patent No. 269,127:

Inventor's Description of the Process

"The process consists in the production of an oil or essence by the distillation of such waste rubber as old tire beadings, impregnating with this distillation product old pneumatic tires, etc., which have previously been cut up, and subsequently plunging the impregnated material into concentrated hydrochloric acid, partly forming synthetic rubber, destroying the canvas of the tire and producing a somewhat viscous mass which, after complete polymerization of said oil or essence, is washed in runing water." The partly refined product is then passed into a suitable apparatus, such as a washing or creping machine, to remove the loose canvas. The "polymerization of the essence" as it is called, is stated to require 15 to 20 days.

The patentee of the process is Charles Danier, 3, rue de Turbigo, Paris. He has ceded the rights to the company mentioned above, which now offers to supply test quantities. The announcement of the product caused some excitement in France and was reported in the British and American press, but it is believed likely that it will be received with the same incredulity in this country that has been apparent in England.

Last named, but perhaps not least, among the searchers after a rubber substitute are those who seek to produce a synthetic product to replace the natural one. It is known that there are several laboratories in the United States where this search is being carried on. In recent correspondence with THE RUBBER AGE, one of these has confirmed a report that its chemists have been successful in their quest and that an early announcement may be expected. Unlike most of the similar cases in the past, the present company is a large, well-known concern which has a reputation for success and is not apt to be beguiled by appearances which cannot be substantiated. It says that its synthetic rubber has been tested and found satisfactory by a prominent rubber manufacturer. An announcement is held up until certain negotiations have been completed.

It is not regarded as likely that any of these claims for having discovered rubber substitutes will be taken any more seriously, either in this country or abroad, than have dozens of similar claims made in the past. The rubber manufacturer has been made wary by exorbitant announcements which have frequently been not even partly fulfilled; the shareholder in rubber plantation companies naturally disbelieves them or he would not be able to sleep at night. The chemists believe more in the physical than they do in the economic possibility of synthetic rubber.

Although the rubbers which they seek to produce in large quantities are not to be classed as rubber substitutes, except possibly for Para rubber, the work of the Intercontinental Rubber Company and Thomas A. Edison continue to attract attention. The former seeks to establish the cultivation of guayule shrub in the United States in a large way and has already had much success with its extensive experiments. The latter continues his effort to find rubber plants that may be made to grow and produce rubber economically in the southern United States.

Radio Advertising By Goodrich

Since the radio was first used for broadcasting advertising messages over two years ago, there has been much speculation as to exactly how useful it is for this purpose. A number of radio advertisers have, in consequence, checked up on their broadcasting to discover the utility of this system as an advertising medium. Among these companies is the B. F. Goodrich Co., of Akron, which broadcasts the Goodrich Silvertown Orchestra concerts from New York and San Francisco. L. A. McQueen, assistant general sales manager of the company, has found that broadcasting has been of great advantage to Goodrich.

In a brochure published by the Metropolitan Life Insurance Company relative to radio as an advertising medium, Mr. McQueen says: "It can be said without qualification that nothing we have done in the last fifteen years of Goodrich publicity has created so much favorable comment among our sales organization and our dealers. It has permitted us to sign up a great many dealers because of the hundreds of car owners we have sent to their places of business through our announcing and radio logging dials. There has never been any advertising force that directed so many people to Goodrich dealers' stores as this has done, and because a great many people go into all types of tire stores asking for Goodrich literature, it naturally created a very friendly feeling toward Goodrich on the part of competitive dealers."

As a result of the survey made by the Metropolitan Life Insurance Company it was found that comparatively few firms who had given radio advertising a fair trial had dropped it, and the conclusion is reached that while radio advertising is not a major medium, it is an excellent support, and for those concerns whose reputations are already well-known and established, it is, when judiciously used, a valuable builder of good will.

Value of Rubber Sundries Down

Although the quantity of rubber sundries exported from the United States in the first half of 1927 increased, unit values declined during this period, causing the total value to decline from $471,951 to $394,241. The outstanding gain in the first half of 1927 occurred in rubber bands and erasers, the total value increasing from $243,063 in the first half of 1926 to $314,257 in the first half of 1927, according to statistics of the Commerce Department.

A New Air Separator for Taking Grit from Carbon Black

Screens Are Completely Gotten Away From in a New Process Developed by a Cabot Engineer—Low Air Velocity Carries Finest Particles Into Settling Chamber, But Leaves Grit Behind

WHEN a gas flame is impinged on a cool surface a soot known as carbon black is formed, and if the surface is frequently and completely scraped, the soot will be a light, impalpable powder free from grit. In the commercial production of carbon black, the cooled surface is usually a steel channel. Although most manufacturers use heavy structural steel, there is some warping, due to the heat, which makes it impossible to scrape the channel clean.

The soot remaining on the channel and continually reheated, becomes a hard, adamantine carbon which eventually falls off into the finished product and is known as grit. Careful operation will reduce this grit to a fraction of 1%, but no producer, however careful, can regularly produce a carbon black sufficiently free from grit for most purposes without refinement of some sort to eliminate the grit.

The usual method of grit removal is to brush the black continuously through horizontal screens with mechanically operated fibre brushes in an enclosed bolter. A 50-mesh screen is usually used, but by arranging the bolters in tandem, the black can be made to pass through a screen as fine as 80 meshes to the inch. Other types of mechanical bolters such as a revolving cylindrical screen, or a screen which is mechanically shaken either by shaking the whole frame or by striking it from below have been used.

More recently, air bolting has been introduced. In one form of air bolter the black is blown through a vertical screen by the blast from a fan. In another, the black is blown outward radially through a cylindrical screen by a centrifugal fan within. In both of these air bolters the separation is due to the screen.

Air separation is quite different from air bolting. It is a method of refinement which utilizes the difference in effect of the air current on the carbon black and on the grit, due to the difference in ratio of weight to effective surface. The first air separator to be used commercially for carbon black was invented by William Davis, of the Eastern Carbon Black Co., in 1922. It consists of a trough in which the black is stirred by a system of paddles, thus creating a dust cloud, which is blown over the edge of the trough by a fan into the settling chamber in which the trough is supended.

A more recent air separator has been developed by W. A. Duerr, of the Godfrey L. Cabot, Inc., and consists of a combination stirring and conveying device working on the carbon black in an air stream from a blower, and pulling the larger particles counter-current to the air stream. The device is contained in a horizontal tube with a grit trap at the end next the blower. At the farther end the air and fine black enter the bottom of a large vertical tube or stack where the air velocity is so low that only the finest particles of the carbon black are carried upward. This stack terminates in a settling chamber at its upper end. Since the counter-current principle is employed, a completeness of separation is possible which parallels the efficiency of a fractioning column in distillation.

In any type of bolter where the separation is due to a screen, the fineness of the particle is determined by the size of the screen. Since the separation in an air separator is fundamental rather than empirical, it is claimed that an air separator will take out particles which pass the finest screen. Comparison of the finished product on a 300-mesh test sieve, washing the black through the sieve with alcohol or gasoline is one criterion of the efficiency; but even this rigid test does not tell the whole story, for grit particles finer than the aperture of the test sieve are always present in bolted blacks.

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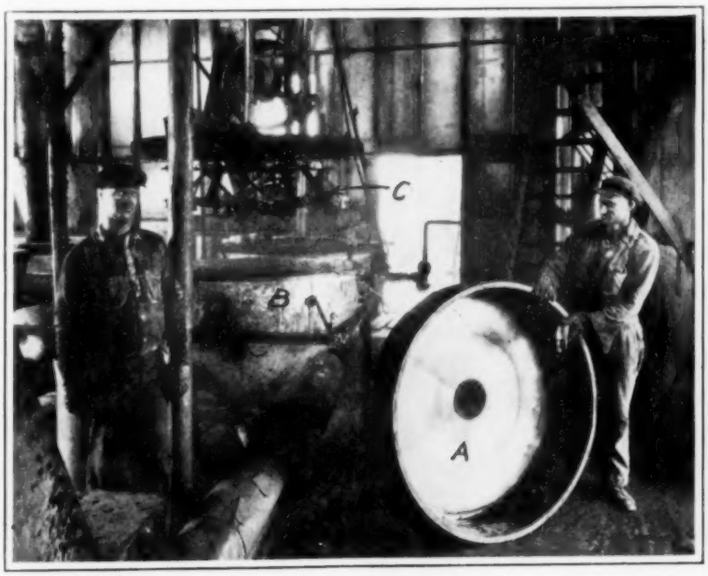


The Pan Bolter Process

This view in a carbon black packing house shows the equipment used in the standard pan bolter process which the air separation process replaces. The screen-bottomed pan "A" rests in the receptacle "B" and the series of brushes at "C" is lowered into it. The motion of these brushes pushes the carbon black through the screen into the hopper from which it is transferred to the packers by screw conveyors.

Grit cannot be defined as the residue left on a sieve of any fineness, for obviously such grit can be reduced by grinding and, in the case of a brush bolter, some of the grit particles are doubtless broken up so that they pass the screen. Grit is more accurately defined as hard material of high specific gravity lacking entirely in the reinforcing and coloring properties characteristic of carbon black.

Data for this article supplied by Godfrey L. Cabot, Inc., who are now installing air separators in all their principal plants.

Citroen Making 400 Cars Daily

With a daily production program of 400 automobiles and with an organization prepared to manufacture 1,000 cars per day in the near future, Andre Citroen, of Paris, is probably the largest builder of automobiles in Europe today. The extent of his industry, which includes plants within a radius of six miles in and around the city of Paris, affords some idea of the possible future trend of the consumption of crude rubber outside the United States.

Mr. Citroen, who might be called the Henry Ford of France, is in a way more fortunate than the American manufacturer, in that the French automobile market still has its chief expansion before it. It would appear therefore, that France will gradually become more and more a factor in the world's crude rubber market, in view of Mr. Citroen's industry.

After a visit in the United States in 1923, where he inspected many plants and talked with automobile manufacturers and engineers, Andre Citroen returned to France with a new conception of motor transport and mass production methods in the automobile industry. Imbued with new ideas, and equipping his factories with American machinery, Mr. Citroen began a large expansion program which is still in progress.

During the past winter the French automobile industry experienced the most adverse conditions it has felt since the war, and Mr. Citroen suffered with all the other manufacturers.

However, he took a final leaf from America's book, and cut prices an average of 15% in February last. He hired additional help and prepared for a 400-car daily schedule. Sales increased at once and by early summer he had practically reached the figure set. The American Trade Commissioner in Paris reports that under this new impetus he is now making 1,000 automobiles a day his goal. It is said in France that he is working on a 6-cylinder model, and that it may be ready for introduction at the Paris salon in October.

New Type of Rubber Upholstery

A new type of pneumatic rubber upholstery for automobiles has been placed on the English market. The cushions are composed of rubber air-proof material, while air-proof vertically strengthened bars are fixed to the bottom and sides, also to the very resilient rubber which forms the top of the cushion. It is claimed that all vibrations are taken up by these bars and the elastic rubber seat, while the solid rubber sides and pieces prevent any tendency to rolling, and stop the cushion from bursting through its cover.

The Etablissements Hutchinson, Ltd., of France, are the manufacturers. They state that no matter if one sits on the corner or edge of the "Air Spring" seat cushion, it maintains its shape, while in the case of a car under way periodic vibration is stopped by the bars, which prevent the air container from responding, and in the case of severe vibration the cushion is able to extend over the lip of the restraining bars.

"Aeroboard" Speed Boat

A speed boat made entirely of "Aeroboard," a new rubber "lumber" made by the B. F. Goodrich Co., of Akron, was recently tested on Turkeyfoot Lake, a body of water located near Akron. The chief purpose of building the boat was to test out the rubber lumber which heretofore has been used only in a small way outside of laboratory experiments. It is claimed that "Aeroboard," when used in the construction of boats, has many advantages over ordinary lumber. One important advantage is that the product cannot become water-logged and that it is of equal strength in both directions, while wood varies with and against the grain. "Aeroboard," it is said, can also be screwed or nailed without splitting. A full description of the material appeared in the Feb. 10 and Mar. 10, 1927, issue of THE RUBBER AGE.

The speed boat mentioned above was constructed with a soft rubber cover over the bottom to protect all screw heads and other roughness and leave a perfectly smooth surface. The soft rubber was attached to the "Aeroboard" by the "Vulcalock" process, a Goodrich invention.

German Rubber Softener

A new rubber softener selling under the trade name of "Kautschol" has recently been introduced in the German rubber industry. The softener is sold to rubber manufacturers by the Technical Chemical Co., of Halle, Germany. Kautschol, according to Dr. Friedrich Patzschke, of Halle, writing in *Gummi-Zeitung*, is a brownish-black oil with an odor similar to pine tar oil. Kautschol becomes liquid when subjected to heat over 200 degrees and has all the viscosity desirable in rubber softeners. The manufacturers of Kautschol claim that in dark-colored rubber articles such as tires, rubber shoes and rubber soles, it is especially serviceable.

Rubber Footwear Exports Decline

The total value of United States exports of rubber footwear for the first six months of 1927 decreased 6 per cent from that of the like 1926 period, according to the rubber division of the Department of Commerce. This decline in value is caused mostly by the decreased value of canvas rubber-soled shoe exports—the unit value having decreased from 78 cents to 68 cents. Over half the canvas shoe exports went to Latin-America.

Exports of rubber soles and heels have shown the largest percentage of volume gain of any of the items of the footwear group. The first six months of 1927 exceeded those of 1926 by nearly 14 per cent.

The following table shows exports of rubber footwear for the first six months of 1926 and 1927:

	1926			1927		
	Quantity	Value	Unit Value	Quantity	Value	Unit Value
Rubber boots, pair	259,265	$705,963	$2.72	213,675	$591,947	$2.77
Rubber shoes, pair	491,036	431,085	.88	511,022	431,249	.84
Canvas rubber-soled shoes, pair	2,634,459	2,066,331	.78	2,775,810	1,876,612	.68
Rubber soles and heels, lbs.	1,968,167	640,268	.32	2,227,236	702,733	.32
Totals		$3,843,647			$3,602,541	

Golf Ball Imports Increase in Unit Value

The Department of Commerce reports that imports of golf balls during July numbered 370,710, valued at $165,759, a unit value of 44.7 cents per ball, compared to 41.4 cents per ball in June and 40.0 cents in May. June imports totaled 320,286 units. The total number of golf balls imported in the first seven months of 1927 numbered 1,961,681 as compared to 2,194,345 in the same period of 1926.

Sales Value of Rubber Products Declines in Half Year

In Spite of High Unit Production, Sales Value of Rubber Goods Produced During the First Six Months of 1927 is $33,000,000 Below Same Period of 1926

THE first comprehensive data on the operations of the rubber industry in the first half of 1927 has become available with the publication of the second quarterly questionnaire figures by the Rubber Association of America. From these statistics it is at once apparent that the lowered prices for most classes of rubber goods have had their effect. The sales value of most products in the first half of 1927 have declined considerably below the corresponding period of 1926 in spite of greatly increased output, as indicated by the larger consumption of rubber. The total sales figures for all classes of rubber goods taken together stand as follows: For the first six months of 1927—$547,467,000; for the first six months of 1926—$581,061,000. It is seen that the industry is still maintaining itself in the billion dollar class although price cuts have robbed it of the growth in sales that might have been hoped for.

It will be seen in the accompanying table that the sales value of only a few classes of rubber goods was higher in the first two quarters of 1927 than in the corresponding periods of 1926. These classes include such items as rubber heels and soles, rubber flooring, waterproof cloth and clothing and bicycle tires. The greatest gain was in waterproof goods. Most classes, including the important tires and tire sundries, showed a lower sales value for 1927 than for 1926.

Automobile and motor truck casing sold by manufacturers in the first half of this year were valued at $318,000,000 as compared with $328,000,000 last year. It is well known, and the consumption of crude rubber also indicates, that considerably more tires were made, but the lowered prices obtained for them, particularly since April, cut down the total sales value. Similarly, the sales total for auto and motor truck tubes suffered a loss of about $9,000,000. Other classes of tires and tire sundries showed reduced sales totals.

With one unimportant exception, all classes of tires showed a gain in the second quarter of this year as compared with the first quarter. This, however, is a seasonal reaction and is regularly expected. In other departments of the industry second quarter gains were less prevalent, such an item as boots and shoes, for instance, showing a sharp loss. The complete situation for the last six quarters is revealed in the comprehensive table at the bottom of this page.

The Rubber Association's quarterly questionnaire also develops crude rubber consumption figures which are regarded as more accurate than the monthly figures of the same organization, these latter being usually accepted as preliminary. The figures as published by the Association, and as reproduced in the table on this page, are estimated to be 92% complete for the entire American rubber industry. When they are raised to 100%, it is seen that the total consumption in the first six months of this year has amounted to 202,458 long tons while in the same period of 1926 only 181,411 tons were used. Automobile and motor truck casings were almost entirely responsible for the increase; other classes of goods called for almost no increased rubber supply.

The questionnaire also produced the usual data on reclaimed rubber, but owing to the fact that it is not known to what degree these figures are complete, they are less valuable. They show, however, that the production of reclaimed declined somewhat in the second quarter of 1927 while consumption increased. The Association's compilation shows that 68,530 tons of reclaim were used in the first half of this year by manufacturers who answered the questionnaire. If these figures be taken as 80% complete,

Rubber Industry Statistics, by Quarters, Since January 1, 1926

PRODUCT	SALES VALUE OF PRODUCTS						CRUDE RUBBER CONSUMED[1]					
	2Q-27	1Q-27	4Q-26	3Q-26	2Q-26	1Q-26	2Q-27	1Q-27	4Q-26	3Q-26	2Q-26	1Q-26
Auto and Truck Pneumatic Casings	*$169,695	148,304	140,754	210,867	186,342	142,063	62,825	60,679	48,300	56,383	51,244	53,891
Pneumatic Tires	*$25,208	24,554	23,523	39,492	33,877	24,999	13,792	12,605	11,212	13,275	12,438	13,683
Motorcycle Tires and Tubes	*$534	449	440	620	545	478	97	81	83	121	81	83
Bicycle Tires and Tubes	*$608	459	891	714	525	730	172	190	225	129	157	244
All other Pneumatic Casings and Tubes	*$126	261	113	98	106	108	6	3	.....	.....	.....	.....
Solid and Cushion Tires	*$9,841	8,233	7,784	10,866	10,083	7,365	4,327	3,444	3,685	3,702	3,381	4,305
All other Solid Tires	*$318	267	209	281	252	156	105	87	57	69	97	104
Tire Sundries and Repair Materials	*$5,618	5,123	4,995	6,379	6,206	4,934	1,324	1,488	1,329	1,463	1,144	821
Mechanical Rubber Goods	*$25,247	24,774	23,135	22,204	26,128	26,791	4,003	4,045	3,602	3,961	3,509	4,073
Boots and Shoes	*$17,209	19,991	37,888	30,678	25,565	20,463	3,758	4,050	3,673	2,895	3,851	3,826
Insulated Wire and Insulating Compounds	*$8,925	7,855	7,471	8,789	10,483	8,744	773	995	685	690	681	991
Druggist Sundries	*$3,369	3,201	3,049	3,164	3,376	3,343	468	564	604	411	498	599
Waterproof Cloth and Clothing	*$6,173	5,100	6,255	6,407	4,982	5,018	932	827	744	621	539	602
Hard Rubber Goods	*$1,641	1,771	3,130	2,339	1,830	3,056	222	139	228	208	270	431
Heels and Soles	*$4,611	4,334	4,982	4,717	3,103	5,571	854	885	915	722	1,070	1,605
Rubber Flooring	*$1 271	1 057	1.244	1,130	901	966	252	190	205	216	210	236
Miscellaneous	*$5,578	5,762	5,076	5,277	5,861	6,112	1,073	1,007	1,008	1,424	970	1,313
Grand Total—All Products	*$285,972	261,495	270,939	354,022	320,164	260,897	94,983	91,279	76,555	86 290	80,140	86,757

*000 omitted. [1]Estimated to be 92 per cent complete for entire industry. All figures in long tons.

as is sometimes done, although the Association's does not verify the estimate, a consumption of about 170,000 tons of reclaim in 1927 would be indicated. The inventory of reclaimed rubber on June 30 of this year was reported as 19,287 tons.

Forty-one crude rubber dealers and importers supplied data as to their crude rubber stocks as did the 178 manufacturers who furnished figures for other parts of the questionnaire. Taken together, it is shown that rubber stocks on hand in the United States and afloat for American ports at the end of June, 1927, totalled 113,182 long tons as compared with 89,674 long tons at the same time in 1926. These figures are estimated to be only 95% complete, however, and when raised to 100% they stand at 119,139 and 91,236 respectively. The great improvement in the stock situation is revealed thereby.

The busier operation of the rubber industry in the half year just ended is also shown by comparative figures on the total daily average number of employees. Firms answering the questionnaire were employing 154,096 men and women in the second quarter of 1927 as compared to 149,885 in the same quarter of 1926. This figures is more interesting when it is known that only 178 manufacturers answered the Association's questionnaire this year as compared with 192 in the second quarter of last year. The gradual decrease in the number of active rubber companies is reflected thereby.

New Rubber Plant Discovered?

A United Press dispatch from Manila on August 13 states that the bureau of agriculture of the Philippine Islands is investigating a new species of rubber bearing plant accidentally discovered in Mindanao by Liuet. Federico Padayang, of the Philippine constabulary.

Sample of the plant has been received from Zamboanga and a preliminary examination indicates that the latex obtained from the plant is of much higher quality than from the ordinary species of rubber trees. Lieutenant Padayang is said to have found the first specimens growing in the hills north of Mindanao, a locality inhabited by the pagan tribe of Subanos.

U. S. Leads in Rubber Belting Exports

The United States is securing fully one-half of the export trade in rubber and balata belting, a survey of the Department of Commerce shows. The United Kingdom, which specializes in balata belting, holds second place. During the first half of 1927 the belting exports from producing countries amounted to approximately 4,820,000 pounds of which the United States supplied 2,432,000 pounds.

Rubber belting is increasing in popularity in Brazil in spite of the local production of leather belting, the American trade commissioner has reported. It is estimated that 25% of the belting now used is of rubber, 60% leather, 10% balata and the remainder of camel hair and cotton.

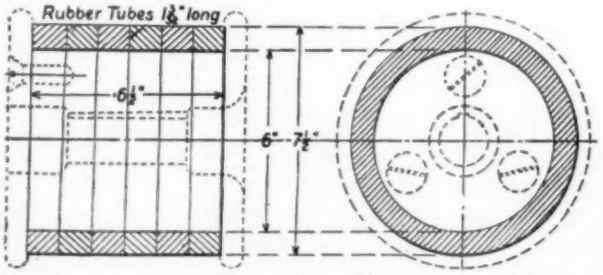
Rubber Factories in Poland

The rubber industry in Poland and Danzig, according to the American trade commissioner, is very little developed. Out of fifteen Polish factories producing rubber goods, only five are active, and these five are manufacturing mostly galoshes and sport shoes. Rubber footwear imports, amounting to 223 metric tons in 1925 and valued at 1,795,000 gold zloty, declined to 118 in 1926 valued at 1,345,000. Two Danzig factories manufacturing chiefly elastic ribbon and rubber heels, are active.

Avoiding Wear on Elevator Parts

IT is reported in the *Bulletin* of the Institution of Mining and Metallurgy that a gravel concern at Wraysbury, England, has adopted the device shown in the accompanying diagram in order to prevent the rapid wear on the elevator chain and rollers by the sharp sand of the River Thames. The device has prolonged the life of the elevator chain at the company's gravel-pumping works by a period of at least eight months and that of the rollers indefinitely.

The original arrangement consisted of a single sleeve



of rubber on the cast iron roller. The wear caused by the chain was, however, confined to a given area and, to avoid a waste of rubber, the sleeves were done away with and a number of rubber rings substituted, as shown in the diagram. As the rings wear out, they are replaced. The whole thing is a simple but money-saving device.

It was also found that the wet sharp sand rapidly cut out the steel chutes in the screening plant. This trouble was arrested by lining them with old rubber tires, which stand up for a long time and cost practically nothing to replace.

The company is also experimenting with rubber sleeves for the joints of the pipe lines, which frequently have to be shifted; this means putting in many bends. It is thought that these sleeves will save the bends and allow the pipes to be taken in any direction required merely by springing them.

A New Organic Anti-Ager

A new anti-ager, known as "Non-ox," has recently been developed by the British Dyestuffs Corporation, one of the firms merged into Imperial Chemical Industries, the world's largest chemical combine. It is claimed that this new preparation can be used for improving the aging and resistance to heat of all rubber compounds, and also for the prevention of "after cure" in accelerated compounds. It is an organic compound, free from inorganic salts, diluents or fibers, is neutral in character, and of great stability. It does not decompose at rubber working temperatures, and for all practical purposes is non-toxic.

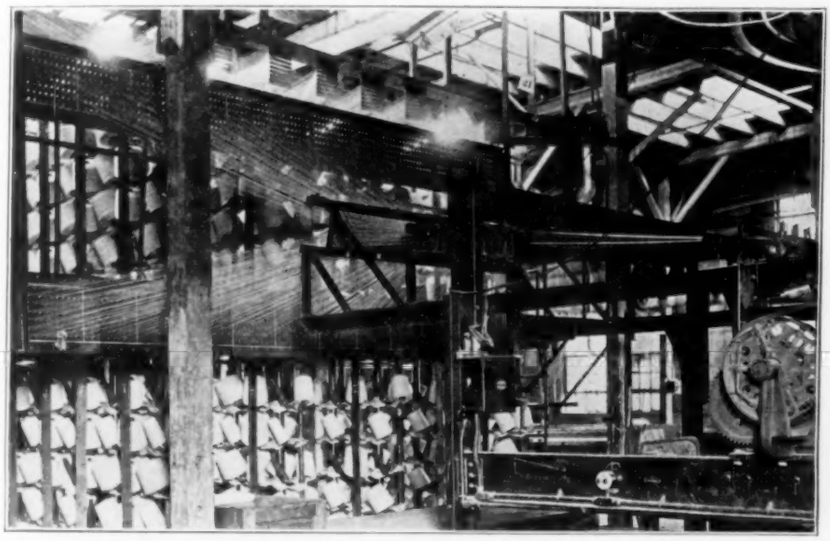
Goodyear Average Profit Is Small

The Goodyear Tire & Rubber Co. made an average profit of about $1.15 on each of its first 100,000,000 tires, the last of which was built this season, according to a compilation of the *Wall Street Journal*. Since 1910, the financial publication says, Goodyear's balance for dividends has exceeded $1,000,000 annually except in 1920 when there was a deficit. The aggregate net has been something like $115,000,000, which does not look so big when spread over the enormous number of tires which the company has produced. From big capitalizations and big gross incomes, the journal concludes, the rubber companies have been able to realize only comparatively small net earnings and a small profit per tire.

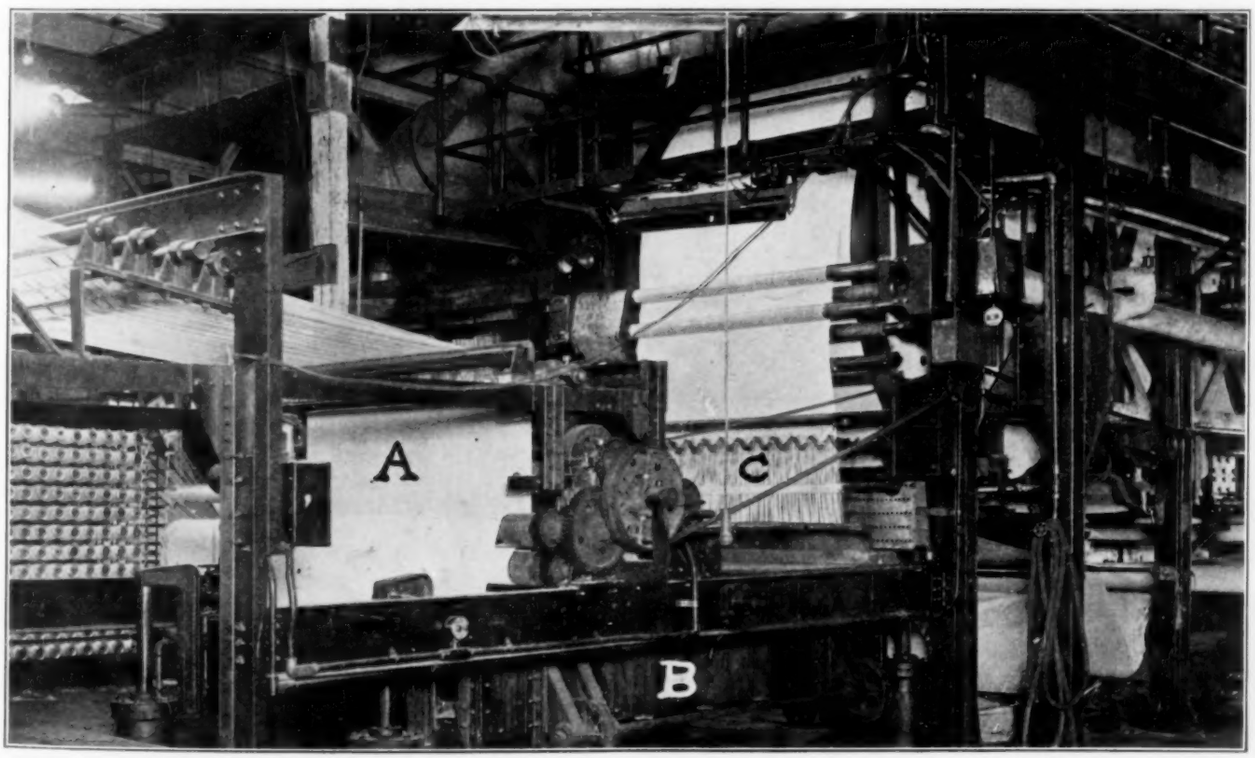
Making Web Cord Tire Fabric

THE United States Rubber Company has recently published these interesting photographs showing how they make the latex-dipped web cord fabric with which their tires are built. The fabric is made up of single cords of the same size and strength which are spun in the company's own mills and sent to the tire factories wound on large spools. The cords from hundreds of spools are run side by side slowly through a bath of natural latex. Continuing side by side they pass over large heated drums which dry all liquid out of the latex and leave virgin rubber holding the cords in a firm sheet, ready for calendering.

Building a tire by the flat drum process out of latex-treated web cord fabric.



The racks of spools which feed the cords into the web cord machine to be made into fabric.



The Web Cord Machine. The cords enter the latex tanks at "A," come out dripping at "B," and are dried at "C."

Photos Courtesy *U. S. Tire Retailer*

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EDITORIAL COMMENT

The Industry's Chemists

AS this is written, many of the chemists of the rubber industry are gathered in Detroit for the eleventh anniversary meeting of the Rubber Division of the American Chemical Society. They have before them a program calling for the reading and discussion of fourteen papers on important phases of their work. Prominent among these are five papers on the manufacture and use of reclaimed rubber, these five forming a symposium on that subject which should produce a most valuable interchange of information in view of the increasing extent by which all parts of the industry are depending on reclaims. Every other part of the carefully-arranged program also assures those in attendance of full value for their expense money.

In every recent year the rubber chemists have made considerable strides forward. Prominent among their work during this last year are the experiments with latex, some of which have led to commercial processes that promise to be of much value. It is certain that further work with latex will yield refinements of these processes to make them still more valuable. Some of the most startling developments in the rubber industry in the next five years will probably be in connection with the direct use of latex.

The fall meetings of the Rubber Division of the A. C. S., in which most of the rubber chemists are banded together, have become occasions for according the chemists the recognition of the industry's debt to them for their large part in its progress. The importance of the work they have done, and will do, cannot be dicounted.

Just a Suggestion

ONE reads constantly of the awards made by several of the larger rubber manufacturers to employees who have been able to offer suggestions that proved of definite value to the plant. A "suggestion box" is placed at a convenient point, certain awards of money are offered, and all employees are invited to write out and drop into the box any suggestions that they have for improving any step in the manufacturing processes. It has been proven that the awards need not be large to induce many employees to pass on to the management their ideas for smoother, more economical production. Even in the largest plants awards of $100 are not common and no more than $25 is given for many ideas that are useful in a small way.

Why do not more of the smaller plants adopt this suggestion system? It is generally known that a few of them have done so and probably others have also adopted it without making it generally known. There are, however, many plants which probably have never given it a thought and might well afford to do so.

The suggestion system does more than produce usable ideas. It gives the employee a new interest in his work and, what is more important, gives him a new conception of his relationship to the entire organization. He is the man who knows most about one particular operation and inevitably he, or many of his fellow-workers, will have ideas for the improvement of his particular step in producing the finished article. Given a chance to pass on such ideas to a responsible board, he finds a new respect for the company instead of a feeling of disgust for an organization that fails to do the thing that to him is both obvious and necessary.

More and More Highways

IF continued expansion in the use of automotive vehicles depends upon the building of more roadways upon which to run them, the saturation point for automobiles seems to be shoved pretty far into the future when one considers the size of the annual budget for highway construction throughout the United States. Twenty years ago the expenditures for highway construction and maintenance consumed only a negligible part of the national income. According to a recent review, such expenditures now consume more than one-sixth of the total.

In 1925 more than a billion and a half dollars were spent on roads compared with $79,000,000 in 1904. In 1923 the per capita expenditure by State and local governments for road building and maintenance was $12.03, or 20.5% of all disbursements. Since 1904 about one million miles of highways have been built in the United States, the review says.

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NEWS of the INDUSTRY

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AUGUST TIRE OUTPUT CLOSE TO JULY TOTAL

Sales and Production of Akron Rubber Companies Close to July Record—Mail Order Houses Advance Price of Tires—Predict Slack in Output.

Preliminary estimates of August sales and production of the leading rubber manufacturers in Akron indicate that the month will closely approach in output the high figures of July, with tire production approximating 140,000 units a day and the majority of the factories operating on a three-shift basis. This condition of heavy production, however, is expected to decline slightly in September because of a reduction in demand from the retail trade. On the other hand, the reduction will be somewhat off-set by an expected increase in original equipment business. Automobile production is again resuming an upward trend with all the Ford plants preparing to begin operations on an extensive scale early in September.

Rumors of tire price changes, which some months ago slightly disturbed the market, have disappeared, and it is believed that the retail price situation appears more stable than it has for some time. Two of the leading mail order houses have advanced tire prices from 8 to 10 % over summer rates in their fall catalogues, but this will not affect the prices of other tires. The chances are good, in the opinion of many observers, that there will be little change in tire prices for the remainder of the year.

Among the individual tire companies in the Akron district, the Goodyear Tire & Rubber Company and the B. F. Goodrich Company have shown exceptionally good earnings in the first half of this year. The enormous growth in tire sales on the Pacific Coast has taxed the Goodyear Los Angeles plant to capacity for months, while increased sales are reported from the Canadian branch. Goodyear's present production in Akron is about 50,000 tires daily.

Sales volume of the B. F. Goodrich Company during August has surpassed the record total reached in July, according to estimates. Current tire production is around 40,000 casings a day, a rate 15% to 20% higher than last year. Firestone Tire & Rubber has also been operating near capacity during August, with a daily tire output of about 40,000. An increase in dollar volume of sales, together with increased production, is also reported by the Miller Rubber Company, General, Seiberling and India.

Appoints Rubber Engineer

James W. Brundage has been appointed by the Akron Rubber Mold & Machine Company, Akron, as rubber development engineer for the company which is planning to increase the facilities and service of its rubber development department.

Joins Hewitt Chemists

J. R. Sweetman has resigned his position as chief chemist of the La Favorite Rubber Company, of Hawthorne, N. J., and is now on the chemical staff of the Hewitt Rubber Company, of Buffalo, N. Y., Mr. Sweetman was previously connected with the New York Rubber Company, of Beacon, and the Whitehead Brothers' Rubber Company, of Trenton, N. J.

Pioneer Agent in India

H. M. Sutherland, foreign representative of the Pioneer Rubber Mills, San Francisco, sailed from the latter city late in August for India where he will look after what is said to be the steadily growing business of the firm in that territory. D. D. Tripp, vice-president in charge of sales, is making a tour of the Pacific coast branches of the Pioneer Mills.

Mexican Company Changes Name

The Cia. Hulera Industrial Mexicana, S.A., tennis ball manufacturers of Mexico City, announce that the concern's name has been changed to The Mexican Import and Export Co., S. A. A reorganization has been effected but the manufacture of tennis balls will be continued. D. Angel Moreno is president and director of the company and D. Francisco Torres is treasurer.

Firestone Architects Named

C. A. Myers, director and chief engineer of the Firestone Tire & Rubber Company, Akron, who is in charge of the construction of the new Firestone plant in Los Angeles, Cal., has announced that the contract for constructing the plant has been awarded to Curlett & Beelman, architects of Los Angeles. The Firestone company has appointed Paul E. Jeffers, of Los Angeles, consulting engineer to aid Mr. Myers at the new factory.

INDIA NETS $215,056 DURING SEVEN MONTHS

Rubber Company Reports an Increase of Dollar Sales Value of 41%, With Unit Sales Increase of 101% in Tires and 117% in Tubes—President Sails.

The report of the India Tire & Rubber Company, of Akron, for the first seven months of 1927 shows a net profit $215,056. Earnings to June 30, 1927, were $2.30 a share on no par value common stock after providing for preferred dividends, deducting interest, depreciation and Federal taxes. Earnings to July 31, on the same basis, amounted to $2.61 a share on the no par value common.

The company reports an increase in dollar value of sales of 41% and in unit sales of tires an increase of 101% and 117% in tubes for the first seven months of 1927 as compared to the same period in 1926.

J. M. Alderfer, president of the India Tire & Rubber Company, and J. A. Andreoli, export manager, will sail from New York City September 20 for a trip through Europe to visit dealers and representatives of the company. They expect to visit the international trade exhibit at Salonica, Greece, and the trade fair in Vienna, Austria. They expect to return to this country early in December.

Recovering From Illness

D. Lane Powers, president of the Eureka Tire Company, Trenton, N. J., recently underwent an operation for appendicitis at a local hospital. For a time his condition was serious, but he is now reported to be improved.

Former Aetna Plant Bought

The plant formerly occupied by the Aetna Tire & Rubber Company, New Brunwick, N. J., has been bought by Fred Eckrode and associates who intend to manufacture a line of rubber bumpers, shock absorbers and universal joints for automobiles.

Canadian Goodrich Bonds

Directors of the Canadian Goodrich Co., Ltd., declared at a recent meeting interest of 3½% for the first half of 1927 on the company's income bonds. The interest payments will be made September 1 to holders of record August 15. The directors also authorized an extension to the plant to provide for increased capacity.

PHENOL PLANT AT NITRO IS SOLD TO AKRON FIRM

It was recently announced that the entire assets of the Southern Dyestuffs Company, of Nitro, W. Va., have been sold to C. O. North, secretary and treasurer of the Rubber Service Laboratories Company of Akron. Mr. North is taking over the property as trustee for the Elko Chemical Company, which will be organized in the near future.

The Southern Dyestuffs Company has been a large manufacturer of phenol, or, as it is more commonly known, carbolic acid. They have also made certain other products which are derivatives of phenol. It is understood that the new company will carry on the manufacture of phenol and will also make certain new derivatives.

The factory is at present entirely closed down, but plans are being made for improvements and additions which will be put in as rapidly as is convenient and operations will be resumed in the near future.

It is understood that control of the Elko Chemical Company will be retained by the Rubber Service Laboratories Company and that the operation of the two firms will be consolidated to as large an extent as is expedient. The former Southern Dyestuff's factory adjoins the Rubber Service Laboratories property at Nitro, bringing the total plant area of the two companies to approximately thirty acres with something more than forty buildings, well adapted to chemical manufacturing. The value of the combined factories is estimated to be in the neighborhood of three-quarters of a million dollars.

Officers of the Rubber Service Laboratories Company are Carl N. Hand, president, of Nitro, W. Va.; E. J. Smail, Jr., vice-president, of Akron, and C. O. North, secretary and treasurer, also of Akron.

Invites American Exhibits

American manufacturers of toy balloons and other rubber advertising novelties are invited to contribute novelties containing advertisements to an exhibition devoted to such articles to be held in Osaka, Japan, in the near future. The exhibit is under the management of the Japanese department of commerce and industry, which offers to return the samples sent by American manufacturers free of charge at the close of the exhibit. Osaka is the largest distributing and manufacturing center in Japan, having a population of over 2,000,000 people. The department requests only samples that contain advertising.

Gasoline Demand Increases

Gasoline consumption in the month of July totaled 29,784,000 barrels, or over one million barrels more than June consumption, which was 27,799,000. In the seven months from January to July of the present year gasoline consumption amounted to 166,125,000 barrels as compared to 145,951,000 barrels consumed in the seven months of 1926. Gasoline demand in July, 1926, totaled only 24,719,000 barrels.

TEXAS TIRE DEALERS FORM STATE SOCIETY

Dan A. English

At a meeting held in San Antonio, Texas, in August, approximately one hundred and fifty tire dealers from all parts of the state formed the Texas State Tire Dealers' Association, and elected Dan English, of Dallas, president. C. C. Wright of San Antonio, was made first vice-president, and W. S. Curtis of Houston, second, and D. T. Hicks of Waco, third. John Lawson was elected secretary and treasurer.

A solid tire division was formed, with the second vice-president in charge. The state was divided into seven districts with three delegates selected from each division, who, with the officers, form the board of directors. William Russell of San Antonio, was named attorney for the Association.

Mr. English came to Texas in 1919 from Tennessee and became a salesman for the B. F. Goodrich Company, after which he entered business for himself.

DUTCH FORM COMMITTEE FOR SELLING COMBINE

A committee has been formed in Amsterdam to study the question of creating a Dutch selling organization for rubber. This committee, in addition to the president, F. P. J. Vester, director of the Nederalansche Handel Maatschappy, consists among others of Dr. A. G. N. Swart, president of the International Association for Rubber Growing in the Dutch East Indies; Dr. C. J. K. van Aalst, D. Birnie, Prof. M. W. F. Treub, president of the Industrialists' Council, P. van Leeuwen Boomkamp, and G. H. Crone.

The task of the committee is to work out a plan which would serve as a basis for a Netherlands Rubber Selling Organization.

NEW JOHNSTOWN TIRE PRODUCT DOING WELL

It is reported from Johnstown, Pa., that the plant of the Johnstown Tire & Rubber Company is among the few factories in that district that is operating on a 24-hour schedule, the other industries in Johnstown having curtailed their activities during the summer. The chief reason for the rubber company's business is said to be the popularity of the company's new tire, known as the "Olympic." The Johnstown Tire & Rubber Company has for a number of years been manufacturing "Cambria" balloon cord tires and heavy duty tires, together with "Cambria" tubes. Quite recently the company introduced the "Olympic" which has been very well received throughout Pennsylvania.

In speaking about the success of the new product, Mr. Edgar Wait, general manager of the Johnstown company, is quoted as saying: "For some time our company has considered the manufacturing of a casing in the class of the 'Olympic.' By this I do not mean that the new tire is a cheap product by any means. But we have been enabled to effect certain economies impossible in our 'Cambria' lines that will permit the 'Olympic' to reach the consumer at a considerable saving in price. We will continue to make 'Cambria' cords and 'Cambria' balloon cords exclusively of the finest materials obtainable, but at the present time our output is composed almost entirely of 'Olympics.'"

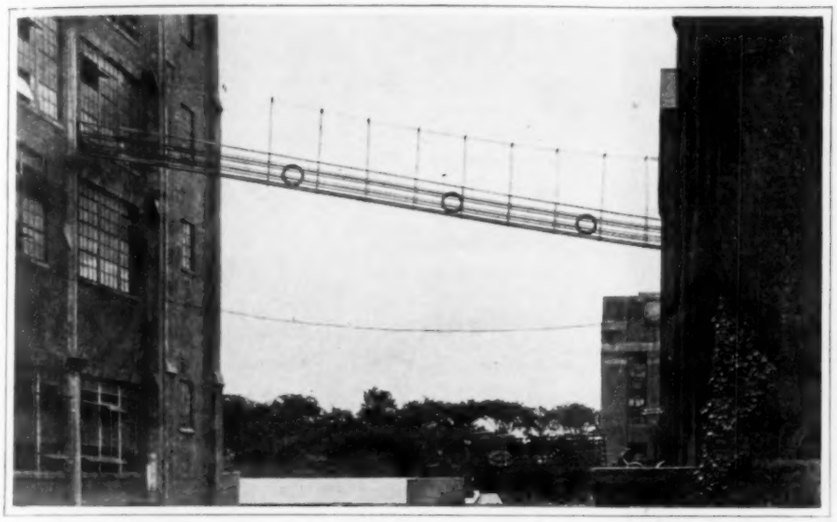
New Exchange Members

Four foreign firms and one New York firm have been added to the list of co-partnerships having members on the Rubber Exchange of New York, it was recently announced by Walter Dutton, secretary of the Exchange. The new firms and the individuals are: Alexander Eccles & Co., J. D. Little, Liverpool, England; Societe Anonyme Dupasquier & Co., Pierre Dupasquier, Havre, France; Fabre, Lovenbach & Co., Robert Zunz, Havre, France; Paul Etlin, Paris, France; Wrenn Bros. & Co., Marshall Geer, New York. It was also made known that P. V. L. Bouton, of Henderson Bros. & Co., Inc., New York, was admitted to membership. A. C. Spencer-Hess, Inc., of which A. C. Spencer-Hess is president, has been added to the list of corporations granted corporation privileges under section 90 of the Exchange bylaws.

Kokomo Warehouse in South

The Kokomo Rubber Company, of Kokomo, Ind., has opened offices and a warehouse at Birmingham, Ala., which will be a distributing point for the company's products throughout the South. The building is two stories high, 120x440 feet and is served at the rear by a private railroad track. It is reported that between 25 and 30 persons will be employed in the building.

Tire Plant Uses Gravity Conveyor



The United States Rubber Company's tire plant at Hartford, Conn., makes use of this simple device for moving casings from factory to warehouse. Under force of gravity the tires roll themselves from one building to another.

DUNLOP HEAD REGARDS RUBBER OUTLOOK GOOD

Edward B. Germain, president of the Dunlop Tire & Rubber Co. of America, Buffalo, N. Y., was recently interviewed by a representative of the *Wall Street Journal* relative to the future of the rubber industry. Mr. Germain said that he regarded the outlook for the whole industry as favorable for the rest of the year, and that all the well-managed companies would operate at a fair profit.

"I feel that there will be a gradual upward tendency in the price of crude rubber," Mr. Germain said. "In my opinion, the Stevenson Act is actually functioning, and, this being the case, and if the British do as they propose to do (continue the Act in effect), a rise in rubber prices sufficient to bring about added releases is inevitable. This will bring out additional rubber next year which in turn will bring the price back again to around present levels. I do not anticipate any actual shortage of rubber in any of the next few years."

Mr. Germain added that the Dunlop plant is at present producing 4,000 tires daily. The company is manufacturing golf balls and will develop in the other lines of rubber goods manufacture.

Starts Rubber Co. Suit

Israel H. Albert has instituted suit in the New Jersey Court of Chancery to compel an accounting by Michael Gilinsky, Milton Mirkin, Benjamin Goldman and Abe and Hyman Rosenthal of the profit said to have been derived from the purchase and resale of the plant of the bankrupt Spartan Rubber Co., located at Yardville, N. J. In his suit, Albert claims that he entered into an agreement with the defendants whereby each was to receive one-sixth of $40,250 as a bid for the plant and share in the profits. Subsequently the plant was sold for $60,000 to the Fisk Flap Rubber Tube Co.

GRUBB RUBBER REPORTS EXPANDING PRODUCTION

Since the Grubb Rubber Company, Akron, began tire production two months ago the company has been forced to expand its output considerably beyond the program originally intended at its factroy in Wadsworth, O., according to officials. Production of 30x3½ and 29x4.40 size "Flint" tires has trebled. A recent change in equipment permits the plant to be operated almost entirely by electricity with the steam power unit being held for emergency use. Vulcanizers for producing molded tubes are being installed.

The Grubb Rubber Company is manufacturing men's rubber belts, rubber mats, tubing for small vehicle wheels and a full line of tire and tube repair materials in addition to small size tires.

Joins Phillips-Baker Co.

B. W. Whittier, who has been connected with the Converse Rubber Shoe Company, of Malden, Mass., as employment manager, has resigned his position to become manager of the making departments of the Phillips-Baker Rubber Company, of Providence, R. I., manufacturers of rubber footwear. The Phillips-Baker company reports production in excess of 6,000 pairs of footwear daily, a record-breaking figure for the company.

COTTON CROP DANGER SENDS SPOT PRICE UP

Fear of Cotton Shortage Sends Spot Price Above 23 Cents—Outlook Is Not Favorable—Higher Prices For Tire Fabrics and Sheetings.

Since the Government report was issued on the first of July, estimating the decrease in cotton planting to be about 12%, or an area under cultivation of 42,683,000 acres, the price of cotton became decidely nervous and unsteady. Throughout July middling spot cotton hovered between 17 and 18 cents. Toward the middle of August, however, reports from the cotton growing belt were exceedingly unfavorable, indicating a growing infestation of the boll weevil, cool weather and much rain. As a result the spot price for middling uplands jumped from 17.35 cents to 19.45 on August 8th. Following this, the price trend has moved generally upward, until on August 29th the spot price reached 23.25, and the December future 23.70, the highest cotton has risen in this future since October 6, 1925, when December cotton sold at 23.04 and spot sold 23.10 the next day.

With this advance in cotton prices, an advance which some observers believe will not decline for some time to come, all cotton goods have shared in the upward price level, but by no means equally. On the average there has been an appreciation of around 20%, of which 13% to 14% has been in the past two months. Some constructions are up 40% and others less than 10%. The heavy goods, such as ducks have been particularly strong. Branded sheetings are in a strong position and a further advance may come at any time to supplement the 7½% mark-up of late July. The prices of tire fabrics may also be similarly affected.

Sales Continue Good

The inherently strong position of the industry, however, may be seen in the fact that sales of cotton goods have continued in good volume despite the higher and uncertain prices. Business in sheetings, ducks and tire fabrics has not been so active of late, primarily because consumers are awaiting a more stable market.

A comparison of the prices of these items as they prevailed in the latter part of June and as they are quoted in the middle of August, shows an average increase of from 3 to 8 cents. Tire fabrics have made the greatest advance, Egyptian carded cord, 23/5/3, being quoted at from 60 to 62 cents in August compared to 52 to 55 cents in the latter part of June. Other cord fabrics have advanced from 2 to 6 cents. Sheetings have advanced about 2 to 3 cents, while belting and hose and enameling ducks have advanced from 30 to 31 cents in June to 35 to 36 cents in August. Double and single filling ducks are quoted 3 to 4 cents more than in June.

HAUSER THROUGH WITH MALAY RUBBER STUDY

Returns After Study of His Process to Change Concentrated Latex to Fresh Latex—He Also Studies Tapping and Bud Grafting.

After a brief visit to the Malaya Peninsula, Dr. E. A. Hauser, Gow Lecturer for the current year at the University of London and a past acting president of the German Society of Rubber Chemists, has returned to Europe from Singapore. The object of Dr. Hauser's trip was to complete investigations into the application of his process of transforming concentrated latex into fresh latex, which he first commenced in the Peninsula about three years ago.

Since his first visit to Malaya the latex treated by his process has become a marketable commodity, and is now being manufactured by an estate in Malacca with considerable success. Dr. Hauser is of the opinion that when the details of his investigations into the physico-chemistry of latex are published, which he hopes to do in the near future, the discoveries that he has made on this trip will go far towards a better understanding of the unique properties of rubber in general.

Studies Plant Physiology

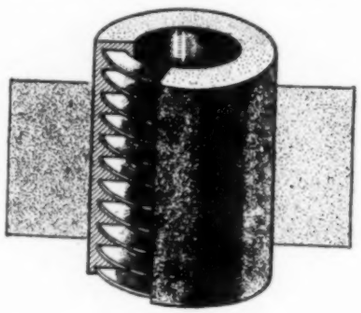
While in Malaya Dr. Hauser also made investigations into plant physiology with a view to ascertaining the best and most efficient method of planting and tapping. Bud-grafting and seed selection he regards as of the utmost importance to the future of the industry. The most important result of his recent research appears to be that relating to the development of a method whereby the future qualities of a tree may be ascertained while the plant is in its infant stages, thus avoiding the necessity of waiting until the tree has reached the tappable age of about five years.

Dr. Hauser declares that for efficient bud-grafting a clone or cluster of trees would have to be segregated and, if possible, grown apart from likely contact with other plants through the agency of insects. Having ascertained that the clone was good the process of grafting could continue and further clones could be cultivated. Then under the Mendelian law 60% of those trees would be high yielders. That process in its entirety would take about five years, and a short cut is being sought.

Determine Tree Character

Dr. Hauser found, in the course of his experiments with latex, that among the particles contained in a small quantity of latex there was one globule of peculiar shape. In the latex of a tree called "A" there was a globule of an entirely different shape from that of a particle found in a tree called "B." The doctor states that when a tree is grown from seed an examination of the latex would show whether the distinguishing particle in the latex of that tree would be identical with that found in the latex of the parent tree. As a result of this important discovery it will be possible to tell exactly what will be the characteristics of the tree from the time it is six or seven months old. If it is known that it will have poor bark or that a poor yield may be expected the tree will be felled, and thus none but the best will eventually be left. No time will be wasted on a tree which will produce a less than average yield.

New French Shock Absorber



The unique properties possessed by rubber under compression are made use of in the new Weydert shock absorber, a recent French introduction. The device, which is herewith illustrated, consists of a helical spring of very flat section enclosed actually within a mass of rubber. Perfect adherence between the rubber and metal is obtained by means of a special vulcanizing process. The shock absorbers take the form of rubber cylinders in which lateral displacement of the rubber is limited by the presence of the metallic core. The resistance offered by the Weydert shock absorber under compression rises very rapidly. The device is manufactured by Etablissements H. Weydert, 21 Rue du President Wilson, Levallois-Perret, Seine, France.

MURRAY RUBBER NAMES NEW DIVISIONAL HEAD

A. J. Dornseif, who for six years has acted as division manager in St. Louis, Mo., for the Murray Rubber Company, of Trenton, N. J., has been appointed division manager for the western district which includes the states of Missouri, Illinois, Wisconsin, North Dakota, South Dakota, Minnesota, Nebraska, Iowa, Indiana, Kentucky and Tennessee. He will have his headquarters both in St. Louis and Chicago.

Mr. Dornseif has been connected with the rubber industry for ten years, his experience covering the field of both tires and mechanical rubber goods. He is reported as saying that the business of the Murray company in St. Louis has increased 50% in the past year over the preceding year.

PANAMA MINES WILL BE DEVELOPED AS PLANNED

Development of the gold mining concession in Panama which aroused Senator William E. Borah and Richard O. Marsh, engineer and explorer, to protest when it was granted in 1926, will begin within the next month, according to the Panama Corporation, Ltd., the British concessionaire. Mr. Marsh is well acquainted with the territory in question since he explored it when seeking rubber lands in Panama on behalf of Harvey S. Firestone. He objected to the concession to British interests both on account of endangering the protection of the Panama Canal and the obstruction that the concession makes to rubber development in Panama. His statement, as well as that of Senator Borah, was reviewed in the June 10, 1926, issue of THE RUBBER AGE.

According to announcements by the British corporation, active steps to open the gold mines will be begun in September. The concession is in the Province of Darien, where a single gold mine was once credited with producing a third of the world's gold output.

COLLEGE STUDENTS ARE TRAINED AT FIRESTONE

Thirty-four college graduates have been enrolled in the 1927 class of the Firestone Tire & Rubber Company, of Akron, for ten weeks of work and study in the various factory departments, with lectures by factory heads on company policies, etc. This is in accordance with the idea of Harvey S. Firestone who originated the school in 1924.

After the college men have spent about ten weeks in study they are transferred to the various departments in which they are best fitted. Those interested in the technical, factory and office work remain in Akron, while others interested in selling are sent to branches where they remain for a few more weeks. Following this they work for Firestone dealers selling tires, and when sufficient ability has been shown here the student is assigned to a Firestone branch and given a sales territory. A salary is paid during this training period.

Swinehart Tire Picnic

The annual outing of the employees of the Swinehart Tire & Rubber Co., of Akron, was held on August 11 at Chippewa Lake, near Akron. Over 900 employees attended the picnic.

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EXPERIENCED CHEMIST on rubber soles and heels. Excellent proposition to right party. State age, experience, previous employment and salary. Address Box 465, THE RUBBER AGE.

33,000,000 TIRES BUILT ON FLAT DRUM MACHINES

An interesting circular of the "question and answer" type has been prepared by the Banner Machine Company, of Columbiana, Ohio, to impress upon tire manufacturers the wide acceptance of the flat band building machine and the vacuum expander. The answers develop the fact that of 89 active manufacturers of pneumatic tires in the United States no less than 53 are building tires in flat form and expanding and bagging them with the vacuum expander. These 53 companies, according to Banner's replies to its own questions, produce about 75% of all the tires and about 70% of their production is on the flat drum machines. This means that about 33,000,000 tires will be built in that way this year. The wide use of Banner equipment is accordingly apparent since the company claims that between 80 and 90% of the drum building machines and vacuum expanders in use today are Banner built.

In response to questions about the future of the flat drum process, it is predicted that within a short time practically all balloon and high pressure tires will be built in flat form since tires built in that way have proved to be of high uniform quality.

Pioneer Asphalt Plant Busy

Since John Young became president of the Pioneer Asphalt Company at Lawrenceville, Ill., early this year, the plant has increased its production of mineral rubber for use in the rubber industry and in addition is now making lead oleate, compounded resin oil, burgandy pitch and Rub Tack. According to Mr. Young, who is well known throughout the rubber industry, Pioneer has been extremely busy in recent months on the standardization of products and the manufacture of mineral rubber and other materials.

McClaren Rubber Outing

The fifth annual picnic of the employees of the McClaren Rubber Company, Charlotte, N. C., was held in the middle of August at Wilson Lake, near Charlotte. The outing was attended by 200 employees. H. L. McClaren, president of the company, made an address.

TIRE CHAIN OF RUBBER WILL BE MADE BY GATES

It has been announced by the Gates Rubber Company, of Denver, Colo., that plans are underway for a national campaign to market a new type of balloon tire chain made of reinforced rubber instead of steel cross links. The new chain is said to be an improvement over other low pressure tire chain types. It will be manufactured in the United States only by the Gates Rubber Company, and the Goodyear Tire & Rubber Company, under exclusive patents, according to the announcement.

The Gates company also announced that it is entering upon a program of expansion to meet increased competition from Pacific Coast rubber factories, such as the new Goodrich and Firestone units to be built in Los Angeles. The company, it was said, is already the largest manufacturer of automobile fan belts in the world, with a large export business in addition to domestic sales. An average of four carloads of rubber automobile accessories are shipped every day to eastern automobile factories.

Goodyear Opens Two New Branch Buildings

THE Tampa, Florida, branch of the Goodyear Tire & Rubber Co. has just moved into its new building at 306-8 Franklin Street. The new building is 100 by 100 feet, two stories high and has 20,000 square feet of floor space for display and storage purposes. According to C. W. Davis, branch manager at Jacksonville, under whose direc- from the Tampa office comes, Goodyear's growing business has made the added space a necessity.

While the new building is only four or five blocks from the central part of Tampa's business section, it is still near both docks and freight houses and is strategically located at the entrance to the bridge which spans the Tampa bay to St. Petersburg.

Goodyear has also opened a new branch building at Philadelphia. This structure is one of the most handsome and convenient of all the buildings used by the company. It is situated at the junction of Broad and Somerset Streets and has 86,000 square feet of floor space. According to E. G. Shick, manager of the branch, the new building is the largest and most modern structure of its kind in Philadelphia.

The new Philadelphia building is shown in the photograph to the left while the Tampa building is seen above. Both represent a part of Goodyear's effort to provide its branches throughout the country with the best facilities.

RUBBER CLAYS of the HIGHEST QUALITY

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Specify "Tire" and "Tube" Brands on your orders. This will assure you of Stauffer quality and service.

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EMBOSSING CALENDERS

For Artificial Leather, Oil Cloth,
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DUNN SAYS FISK WILL PUSH FOREIGN SALES

H. T. Dunn, president of the Fisk Rubber Co., who recently arrived in London, stated in an interview that the Fisk company "was embarking on a more progressive sales policy in foreign markets." Mr. Dunn was asked if Fisk contemplated building a tire plant in England, and he replied that it was not yet possible to say whether the company contemplated erecting a plant in England or elsewhere in Europe. "Sales of Fisk tires in Britain," Mr. Dunn said, "are small at present, and were hardly effected by the recent imposition of a 33⅓% duty."

Discussing the rubber situation he stated his opinion that the average raw rubber prices for the last six months of 1927 would average rather lower than the January-June level, which is contrary to the London opinion. It is believed in London that the world's stocks will show substantial decreases during the last quarter of 1927, owing mainly to increase consumption in the United States. These stock decreases are calculated to bring higher prices.

Mr. Dunn thinks London exaggerates this expansion in American consumption of new rubber. He believes that a 7% increase on last year's 365,000 tons consumption is nearer the mark than London's 10% estimate. With no alteration contemplated in the Stevenson restriction scheme, and with unused export licenses almost all worked off, he expects harder rubber prices with falling stocks in the spring of 1928.

FORMER LAMBERTVILLE RUBBER AGENT IS DEAD

Bryan H. Taylor, formerly associated with the Lambertville Rubber Co., Lambertville, N. J., for many years, died in a hospital in Trenton in the latter part of August at the age of 75. He had been ill a long time. He was born on a farm near Frenchtown, N. J., and after leaving school went to Lambertville, where he became affiliated with the rubber concern. He was sent on the road as a salesman with territory in New York State and attained such success that he was made a general agent with a staff of salesmen under his direction. Mr. Taylor retired some years ago and he and Mrs. Taylor traveled extensively. One tour took them to Hawaii and Japan and they recently visited California. He was a director of the Amwell National Bank of Lambertville, and a member of the Masonic fraternity.

Cyanamid Earnings Lower

The American Cyanamid Company reports for the year ended June 30 net income of $1,356,231, excluding subsidiary companies' losses of $58,779, but after providing for depreciation, interest and Federal taxes. This is equivalent to $3.09 a share after preferred dividends on the combined 329,715 shares of $20 par value Class A and Class B common stock. It compares with $1,652,240 or $3.99 a share on the combined stocks in the previous year. Net sales, including those of subsidiaries, totaled $11,594,617, against $12,518,441.

PRODUCES DOUBLE BOLT DREDGE SLEEVE CLAMP

Dixon Dredge Sleeve Valve Coupling

The Dixon Valve & Coupling Co., of Philadelphia, are manufacturing a double bolt dredge sleeve clamp which is illustrated herewith. As may be seen, the bolts are at the top of the clamp rather than at the sides, which, it is claimed, permits greater ease in attaching or detaching from sleeve. Both lugs are set low on the clamp and saddle, eliminating any possible danger of bending or breaking and enabling a uniform bolt pressure to be exerted over the entire circumference of the sleeve.

The company also manufactures a single bolt dredge clamp which differs from the one here illustrated in that the slotted side of the bolt slug is counter-sunk to prevent the bolt from slipping out when pulling up on the nut. The single bolt clamp is shaped to embed in the hose, the loop ends of the band being inserted in bolt lugs. This, it is said, causes a tighter connection, the greater the strain.

Brazil Hears From Edison

It is reported from West Orange, N. J., the home of Thomas A. Edison, that the inventor has cabled the Brazilian Government for samples of certain rubber plant seeds which he intends to plant in his Fort Myers, Fla., estate. Mr. Edison has been conducting experiments through which he hopes to develop a rubber-producing plant which may be grown within the United States.

Gryphon Rubber For Sale

The plant and entire equipment of the Gryphon Rubber & Tire Corp., located at Bailey Avenue and 192nd Street, New York City, is being offered for sale. Part of the equipment includes a 66-inch Birmingham calender, a 54-inch Thropp calender and Hermann universal building machines, together with bead trimmers, rimming presses, three lines of molds, etc. The plant comprises 65,000 square feet. Dr. D. W. Whipple is president of the corporation.

GOODRICH JULY SALES THOUGHT TO BE RECORD

July sales of the B. F. Goodrich Company, Akron, are estimated to have set a monthly record, making the biggest sales volume in its history, while preliminary August figures indicate still further improvement in gross sales. Goodrich showing is striking in view of the fact that tire prices are 25% less than a year ago and mechanical and rubber footwear prices are 10% to 15% down from last year.

From the present outlook it would appear that the company will establish a new sales aggregate for the year—probably close to $155,000,000. The company's previous high sales total was in 1920, when on the inflated prices of that period the figures ran up to $150,000,000. In 1926 the net sales total was $148,391,000.

Legion Mail to Goodyear

P. W. Litchfield, president of the Goodyear Tire & Rubber Co., Akron, has agreed to arrangements for the delivery of mail addressed to delegates of the American Legion Convention at the company's Paris office. The service offered by the Goodyear company is only for Legion delegates who are residents of Summit county, Ohio. The Goodyear Paris office will serve, therefore, as a temporary address for men attending the convention from Akron and surrounding communities.

WARNER-QUINLAN NAMES MAY TO HEAD MR DEPT.

Louis W. May, formerly vice-president and general manager of the Pioneer Asphalt Company, Lawrenceville, Ill., has recently become associated with the Warner-Quinlan Company, New York City, as manager of the mineral rubber department. Mr. May has had many years contact with the rubber industry and is familiar with all problems in connection with the use of appropriate grades of mineral rubber in compounding. The Warner-Quinlan Company products are sold under the trade name of Montezuma brand. The company maintains its factory at Warners, N. J.

Canada Tire Outlook Good

The Toronto plant of the Goodyear Tire & Rubber Co. of Canada is producing in excess of 8,000 tires per day, although the potential production capacity of the plant is only about 6,000 tires per day, according to a published interview with C. H. Carlisle, president of the Canadian Goodyear company. Mr. Carlisle stated, moreover, that in his opinion the Canadian automobile market was still far removed from the saturation point, and that there existed large potential markets both for motor cars and tires in the foreign countries served by his company. He said that as yet only a fringe of the possible export business had been touched

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PENNSYLVANIA MANAGER SEES 20 CENT RUBBER

According to a published interview in the *Journal of Commerce*, Dudley M. Mason, general manager of the Pennsylvania Rubber Co., of Jeannette, Pa., believes that the price of crude rubber must inevitably seek lower levels. He stated that while the price of crude rubber has declined from 42 cents to 35 cents per pound in recent weeks, and while this decline has taken place in spite of the Stevenson Restriction Act, the current price of 35 cents per pound is still approximately twice the price at which crude rubber would sell in the New York market under normal conditions.

"While speculators may force the price of crude rubber up and down," Mr. Mason said, "and effect a squeeze now and then, yet inevitably the price of crude will eventually go under 20 cents per pound because of the enormous increase in rubber plantings in areas not affected by the Stevenson Act, and the intelligent application of better laboratory methods. Many investigations have disclosed the fact that crude rubber can be sold in New York at a fair profit to the growers at around 17 cents, and until this price level is reached it may be safely concluded that any higher quotations are abnormal and inflated."

Mr. Mason further added that he thought it entirely possible that more business-like methods of administration and better methods of budding and planting will eventually bring the producing cost or ribbed smoked sheets to 10 cents per pound.

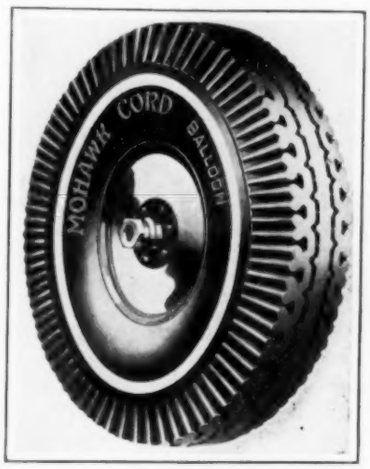
"Certainly many wasteful items of overhead are in vogue among practically all of the British crude rubber producers, who have not as yet been required to deflate excessive costs, thanks to the protecting mantle of the Stevenson Act," Mr. Mason said.

Hard Rubber Output Low

The slump in the hard rubber production at the Trenton, N. J., plants continues and the outlook does not appear to be very bright. The condition is believed to be due to overproduction and the cheaper manufacture of articles abroad. Plants manufacturing tires and tubes and rubber mechanical goods are operating overtime in most instances. Business is also good along the lines of soles and heels and rubber cloth.

CATALPO!

MOHAWK OFFERS A NEW FLAT TREAD BALLOON



A new balloon tire designed to eliminate fabric breaks under the edges of the non-skid has been introduced by the Mohawk Rubber Company, of Akron. The company claims for the new tire not only the elimination of shoulder breaks, but an improved road contact by reason of the broader tread, and slower, more even wear and less chance of skidding.

The illustration herewith shows the long supports at the edges of the treads which, it is claimed, distribute the flexing up into the balloon sidewalls and afford an attractive appearance to the tire. The Mohawk flat tread balloon is available in 31x5.25, 33x6.00 and 33x6.75 sizes. All are of six-ply construction.

Miller Rubber Picnic

Employees of the Miller Rubber Company, Akron, numbering more than 2,500, attended the company's annual picnic held recently at Springfield Lake park, near Akron. The outing was given under the supervision of the Miller Relief Association.

Celebrates 70th Birthday

William J. B. Stokes, treasurer of the Thermoid Rubber Company, of Trenton, N. J., and president of the Joseph Stokes Rubber Company, recently celebrated his 70th birthday by entertaining the members of his family at a dinner in Trenton.

BUDGET BUREAU ALLOWS FUND FOR RUBBER TEST

When the next Congress gets around to making appropriations for the year beginning July 1, 1928, it will have a chance to give the Department of Agriculture the $200,000 for rubber planting experiments which the last Congress denied it. The Bureau of the Budget has approved the expenditure and it will appear in the budget which will be laid before Congress. The same amount was approved last year and was included in the deficiency bill which Congress failed to pass when it got into a legislative jam at the end of the session.

If and when the money is made available, the Bureau of Plant Industry of the Department will undertake large scale rubber experiments in the Philippine Islands in addition to extending its work in the Caribbean. It is reported that an experimental tract of 6,000 acres will be planted in the Philippines. The land was originally selected for a military reservation and is in Mindanao.

The Bureau's work will be purely experimental with a view to determining what obstacles are likely to be inherent in the Philippines which would not be apparent in small scale operations. It is hoped that the large scale experiment will demonstrate the commercial feasibility of growing Para rubber in the islands.

The experiments which the Bureau has under way in Haiti and the Canal Zone are reported as progressing satisfactorily. The success of the tapping experiments in northern Haiti, almost 20 degrees north of the equator, is taken to mean that the rubber growing belt is not as narrow as heretofore understood.

Charles V. Bellows

Charles Verne Bellows, of Akron, died at his home a few weeks ago after a protracted illness. He was 32 years of age. He was well known in the rubber industry, having been connected with the sales department of the Miller Rubber Company for nearly 12 years. At the time of his death he was service manager of the Chicago branch of the Miller company. In November, 1926, he was given a leave of absence from the company on account of ill health. He spent several months in a sanitarium and returned to Akron a week before his death. He is survived by his wife and mother, a brother and a child.

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Akron, Ohio

Financial Items

Rubber and Motors

STOCKHOLDERS AGREE TO EXCHANGE SHARES

The holders of about two-thirds of the 7% preferred stock of the Goodyear Tire & Rubber Company, of Akron, have agreed to exchange their shares for the new 7% preferred stock to be issued, it was said, after a canvass of a month's duration. The new stock is to be issued at the discretion of the directors under the recapitalization plan approved at the stockholders' meeting held in Akron in July.

The canvass is continuing with a view to reaching the remaining stockholders. At the next meeting of the directors, which may be held on September 19, it is expected that the board will take action to declare the exchange plan effective.

THREE MEMBERSHIPS ON RUBBER EXCHANGE SOLD

Three memberships on the Rubber Exchange of New York were sold on September 1 when L. W. Dumont, of L. W. Dumont & Co., purchased two Exchange memberships held by Albert L. Funke and Sylvan M. Barnet. The purchase price in both instances was $4,500. Daniel E. Wade, of Wade Bros. & Co., purchased the membership of John J. Pflieger for another, for $4,600.

Walter Dutton, secretary of the Exchange, announced on September 1 that the following nominating committee had been appointed by the board of governors to name candidates for all offices to be filled at the annual election on October 18: Alfred Croft, chairman; Marshall Geer, Louis V. Keeler, Charles H. Moore and James R. Shannon.

White Dental Off Curb

The White Dental Manufacturing Co., of Philadelphia, has requested that its stock, which has been traded in on the New York Curb Market, be dropped, according to officials of the Exchange. No reason was given for the company's decision. There were 50,000 shares of White Dental $100 par capital stock admitted to unlisted trading on July 27.

CATALPO!

Late Stock Prices

	Last Price		—1927—	
	Aug. 31	Aug. 17	High	Low
Ajax	8	8⅛	13	7½
Firestone	153	146¼	167	117
do 6% pfd	106	106	107	107⅞
do 7% pfd	103	103	103½	98½
Fisk	15¾	16¼	20	14⅛
do 1st pfd.	85	83	89	81
General	—	—	155	140
do pfd	162½	102½	106	99¼
Goodrich	71¾	66¼	73¾	42¾
do pfd.	104	103¼	104¼	95
Goodyear Com.	—	53	56½	50⅝
do pr pfd	111¾	—	118⅛	104½
do pfd.	116	115	117	98½
Hood	—	—	47	42½
India	21½	22	30	28
Intercontinental	—	12½	15¾	11⅜
Kelly Springfield	27⅞	23¼	30¾	9½
do 1st pfd	81	69	84½	44
do 8% pfd.	81¼	70	84¾	35
Lee	11¾	10¼	11⅞	7
Miller	26	28¾	36¾	26½
do pfd.	98	98½	104	100
Mohawk	18	—	25	15
do pfd.	—	38	65	65
Seiberling	32	32	34⅞	21⅜
do pfd.	101	101	101	96
Star	—	—	2	2
U. S. Rubber	47	50	67¼	37¼
do pfd.	94⅞	96¾	111⅝	85¾
U. S. Rubber Reclaiming	—	12	12	12
do p pfd.	—	24	24	24
do series A.	—	15	15	15

Firestone Charter

It is reported from Dover, Del., that charter has been filed for the organization of the Firestone Tire & Rubber Co. of California with a capitalization of $20,000,000.

Warner-Quinlan Earnings

The consolidated net earnings of the Warner-Quinlan Company and subsidiaries, for the first half of 1927, including earnings of the Compania Petrolera del Agwi from March to June only, amounted to $623,902. The balance available after interest on loans and bonds for the stock of the company totaled $550,549, equal after preferred dividends to $2.20 a share earned on 240,380 shares of outstanding common stock, on which dividends of $2 annually are now being paid.

LOWER PRICE LEVELS ON RUBBER EXCHANGE

A general mood of hesitation accompanied by a gradual recession of prices to a new low level, has featured trading on the Rubber Exchange in the last fourteen days. Continued absence of any supporting developments in future positions, together with bad weather conditions throughout the east and no indication of a substantial decrease in London stocks were given as the reasons for the price depression.

At the beginning of the full last week in August the chief setback to any hope on the part of bullish traders to send the price of rubber back to the neighborhood of 39 and 40 cents was the announcement of a general let-down in tire production in Akron. The industry hung up a new six month's record when deliveries during this period totaled approximately 30,000,000 castings compared to about 27,000,000 for the first half of last year.

The approach of a three-day holiday, from Saturday, September 3 to, and including Labor Day, slowed up activity on the Exchange, with prices ruling barely steady. Nevertheless, 562 contracts sold on September 2, which compares with 860 sold on August 25, the largest turnover in the past fortnight.

Buys Habirshaw Wire Co.

Sale of the controlling interest of the Habirshaw Cable and Wire Corp., of New York, to the Eastern Wire and Cable Company, a Delaware corporation, was announced from Pittsburgh on September 1. The deal represented the transfer of 100,000 voting trust certificates of the Habirshaw corporation at $25 a share. The purchasers offer the same price for the remaining minority voting trust certificates for a period of 90 days from August 25.

Closing Prices on Rubber Exchange of New York, Inc.

AUGUST 19 TO SEPTEMBER 2

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Sales*
Aug. 19	35.00	35.20	35.30	35.40	35.60	35.80	36.00	36.20	36.50	36.80	36.80	36.90	239
20	35.00	35.10	35.20	35.50	35.60	35.90	36.10	36.30	36.50	36.80	36.80	36.90	160
22	34.80	34.90	35.10	35.20	35.40	35.60	35.90	36.10	36.30	36.60	36.70	36.80	229
23	34.70	34.70	35.00	35.20	35.50	35.70	36.00	36.20	36.40	36.70	36.80	37.00	310
24	34.70	34.70	35.00	35.20	35.40	35.60	36.00	36.20	36.40	36.60	36.80	37.00	172
25	34.00	34.20	34.30	34.50	34.70	35.00	35.40	35.60	35.90	36.20	36.30	36.40	860
26		34.30	34.50	34.70	34.80	35.10	35.40	35.70	35.90	36.30	36.40	36.50	664
27		34.10	34.40	34.60	34.80	35.10	35.40	35.60	35.80	36.20	36.20	36.30	113
29		33.90	34.20	34.30	34.40	34.90	35.10	35.30	35.60	36.10	36.20	36.20	333
30		34.20	34.20	34.30	34.50	34.80	35.10	35.30	35.70	36.10	36.30	36.40	699
31		33.90	34.00	34.30	34.50	34.80	35.10	35.40	35.80	36 00	36.20	36.30	411
Sept. 1		33.90	34.00	34.20	34.30	34.60	34.90	35.10	35.40	35.70	35.90	36.20	279
2		33.80	34.00	34.20	34.30	34.50	34.80	35.10	35.30	35.50	35.70	35.90	562

(*) In lots of 2½ tons each.

Goodyear Rubber Moves

The Goodyear Rubber Co., formerly located at 134 Duane Street, New York City, moved its general offices recently to Middletown, Conn., where the company's plant is located. It was explained that this move was being made because the company found that Middletown served as an advantageous center for the distribution of its products, both throughout New England and over the country. A sample room, however, will be maintained in New York City. The Goodyear company manufactures rubber footwear. F. E. Church is president.

Aetna Rubber Enlarges

The Aetna Rubber Co., of Cleveland, O., is erecting a new building to be used as a machine room. The structure will be of brick 60x60 feet, and will replace an old wooden structure which the company has been using. The company is also building a water tank of 50,000 gallon capacity, 118 feet above ground.

Rubber Spark Plug Cover

A plug cover made of oil-resisting rubber and designed for the purpose of protecting spark plugs against the effects of the weather has recently been introduced in England by Desmo, Ltd. The spark plug cover is so constructed that it will easily slip on and off the plug. The manufacturers claim that it is particularly useful for marine work where plugs are normally subjected to the ravages of sea-water.

"Plenty of Rubber" is Slogan

The United States Rubber Co. has injected a new theme into its advertising, this being the idea that crude rubber is used plentifully in the construction of the company's tires. The fact that the United States Rubber Co. is the largest producer of rubber in the world, having 10,000,000 trees on its Eastern plantations, is also emphasized.

New Rubber-Tired Trailer

A steel trailer, fitted with an automatic coupler and rubber-tired wheels has recently been placed on the market by the Clark Tructractor Co., Battle Creek, Mich. The trailer is of the standard warehouse and shop size. The body is formed by a single piece of ¼-inch steel. The two casters at the front are of Clark design and swivel on eighteen 1-inch steel balls. The wheels themselves are mounted on solid-roller bearings of special design. Rubber tires are furnished on all four wheels. The rear tires are 12x4 inches and the caster tires 10x3 inches. Claims made for this trailer are that it eliminates noise, prevents wear on expensive flooring, and reduces breakage to a minimum. The rubber tires also eliminate sparks in paint and varnish shops when traveling on concrete floors.

Rubber Novelties Company

The A. & G. Lacking Co., of Newark, N. J., has leased a large brick building at Trenton, N. J., and will shortly begin the manufacture of rubber novelties. The concern will make a number of improvements to the plant.

Chart for Changing Valves

An information chart, in the shape of a wall hanger, giving a multitude of facts on proper valve sizes for almost any size tire, balloon, high pressure, truck, bus, motorcycle, or any other kind, has been published by the Dill Manufacturing Co., of Cleveland, manufacturers of standard tire valves and valve parts. The chart contains actual size illustrations of the various types of valves, with all dimensions and thread sizes. Straight valve stems, 90 degree angle valves, double bend valves, single bend valves, valves for wire wheels, valve caps and valve insides appear on the chart with the correct places to use each one indicated. The directions shown are approved by the Tire and Rim Association of America.

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Rubber in Chemical Industry

The B. F. Goodrich Rubber Co., Akron, has issued a new catalog showing the company's rubber goods which are applicable to the chemical industry. Many of these are based on the Vulcalock process and considerable attention is accordingly given to that method of attaching rubber to metal. The statement is made that 30 tank cars have been lined with Acidseal rubber, a special compound which resists corrosion.

Other Goodrich products for the chemical industry include rubber lined tanks, utensils, rubber lined piping and fittings, rubber lined valves and acid hose. An Acidseal varnish is also offered to enable anyone to apply a protective coating to metals which will come into contact with acids. It is applied by brushing, but can also be sprayed on if thinned according to directions.

Restriction Changes Rumored

The London *Daily News* has reported a rumor to the effect that on November 1 there will be a reduction of 50,000 tons in the assessed standard production of Malaya and Ceylon under the Stevenson restriction scheme. Opposed to this the rumors persist that restriction will be abandoned altogether at the end of the year, and it is generally admitted, both in London and New York, that the future of restriction is completely in doubt and not to be judged by vagrant reports.

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Raincoat Demand Grows

Considerable improvement has taken place in the selling of women's raincoats in the New York trade during the last few weeks, especially since the recent heavy rainfalls. Comparatively few orders are being received for the slickers with strap collars which sold in large quantities last fall. It was said that the demand had shifted to coats which are rubberized on the inside and which do not look particularly like raincoats. Satin and cotton crepe are the favored exteriors, in plain and fancy finishes. One manufacturer reports that a reptile design is very popular. Reversible collars have superseded the strap collars of the slickers. The greatest demand this season is for coats retailing at from $6 to $10.75, while a year ago $2.50 to $3.75 was the popular range.

Call Stock Certificates

Stock trust certificates issued by the Goodyear Tire & Rubber Co., Akron, under the prior preference stock voting trust agreement of May 1, 1921, have been called for redemption on September 8 at $110 a share plus accrued dividends of $2 a share. Payment will be made to registered holders on and after that date at the Central Union Trust Co. of New York and the Union Trust Co. of Cleveland.

Close British Branch

It is reported by the Department of Commerce that the Continental Rubber Co., of Hanover, Germany, has closed its British branch because of the application of the McKenna duties on imported automotive rubber goods. The German company is unable to compete in the British market and thus loses an important outlet for their products.

Firestone Sees Prosperity

In a visit to Buffalo in August, Harvey S. Firestone, president of the Firestone Tire & Rubber Co., in speaking about business, prophesied a general improvement this fall, declaring excellent crop conditions throughout the country would have a great bearing on automotive retail business.

Brown Rubber Branch

It is reported that the Brown Rubber Co., of Lafayette, Ind., has opened its first factory branch in Atlanta, Ga., where it has leased quarters. The company manufactures tires and tubes.

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THE GENTLEMAN FROM MINCING LANE
reports current opinion in London's famous rubber market in every issue of THE RUBBER AGE

The London Letter

This Week the Gentleman Talks About the Weather

London, August 25th, 1927.

TWENTY million tons of rain fell in London during the week-end of August 21st, according to official estimates. And these tons have followed a very wet summer in this country, all of which, just now, concerns our London rubber friends more than tonnage of rubber in the tree, in stock, afloat or otherwise placed. Not because sales of rubber footwear and coats must benefit and tire sales decline, but because they and their families want some sun to warm the sands and tan their hides so as to fill up depleted reservoirs of vitamines to enable them to endure next winter's long night.

So your American readers who have spent their week-end holidays at Atlantic City watching the rain may find comfort in the reflection that they have at least had sunshine—say, every other day—while the poor Englishman (or the envied American summering in Britain) has had rain twelve out of fifteen days in August. Having passed this cheery word, I will turn—before it rains again—to the subject of tire manufacture in Britain which is of considerable interest at this time.

You will remember that in April an import duty of 33⅓% on foreign-made and 22% on Empire-made tires was imposed—I like that word "imposed," when discussing tariffs, because "imposed" is such a close relative of "imposition." Low-priced tires have not been able to go over this hurdle, so I am told, and Continental (German) and Englebert (Belgian) and similar tires have lost a good market. Probably only high-priced special tires will be imported, or so it is predicted. True, a glance at the total monthly value of tire imports before and after the new tariff does not show much change, but price changes have been sizeable, and might have caused a reduction in numbers—especially of cheaper tires. Then again only three months have elapsed, so that it is still early to tell.

The Goodyear Company are establishing a plant in Britain, and the Italian company, Pirelli, are following a similar course. Michelin and Goodrich are now making tires in their British plants. So plant capacity expands here, and British manufacturers will have not only American, French and Italian "commercial" competition, but also "industrial" competition.

ONE hears the gossip that some British makers didn't fancy such an outlook, and would have preferred the competition of imported American tires to that of those Anglo-American produced. Others say that Michelin, having come inside, pushed hard for protection and got it—aided possibly by Mr. Churchill's keen interest in a new source of revenue. Of course the tax-collector will get his either way—on imports or income tax on tires made in the new Anglo-American-French-Italian plants.

Then let's look ahead a little way, or at least speculate on what is over the next hill. What if the Labor Party or the Liberal Party comes into power some time in the next five years? So far, they are clearly for free trade—or, as we should say, freer trade, as it is a long time since England has had 100% free trade or a Government empowered to free trade. The opposition Parties, I say, are for freer trade, and might cut off some of the duties recently imposed. If tires are again placed on the free list, will not the position of domestic manufacturers be worse than it was before 1927—with increased domestic competition on the one hand, and a revival of overseas competition on the other?

Of course, the first fruits are sweet. Last winter's fierce price-cutting came to an end, and prices have moved up 15% to 20% behind the tariff wall. Mr. British-tire-manufacturer likes that of course, and so do his shareholders, but will not the cost of motor transport—of such rapidly growing importance today—be raised for cotton, coal, iron, steel, and all those export industries which cannot be similarly protected?

"Ah well!" your Atlantic City rainy-day reader will say, "don't ask me so many questions. I suppose what goes up must come down, tire prices, tariffs and everything except the margin of profit on what I sell—that never goes up as fast as it does on what I buy."

MINCING LANE is quiet. Restriction is still with us. All that can be said about the outlook for changes in The Scheme is that over-assessment is the defect most likely to be remedied, as was brought out so reasonably in the article "British Study Important Changes in Rubber Restriction" in your August 10th issue. On November 1st there would ordinarily be an increase of, say, 5% to 10% in the standard production figures of many estates, these increases resulting from the first tapping of young trees, and general expansion in production capacity for various reasons. If it were decided, therefore, not to grant increases in the standard production figures for these or any other reasons, the result would be in effect a tightening up of restriction, although not reducing production materially—if at all—from November 1st on, as compared with the present restriction year.

The sentiment in London seems to be that rubber prices will show a steady improvement, but that sharp rises are unlikely. This feeling is based on evidence that restriction in Malaya and Ceylon is now really beginning to be effective, the excess coupons having been used up, to all practical purposes. Shipments from the East have shown the effect of this change and stocks at Singapore and Penang have not increased appreciably. The imports into Singapore are expected to decrease as soon as Malaya can put into effect her plans for controlling the smugglers.

Yours faithfully,

THE GENTLEMAN FROM MINCING LANE.

LATE MARKET PRICES

Crude, Scrap & Reclaimed Rubber - Cottons and Fabrics

SEPTEMBER 2, 1927

COTTON

A DISTINCT nervousness and a violent fluctuation of price levels has featured the cotton market in the past fifteen days. The increasing seriousness of the boll weevil situation, as indicated in both private and official reports, together with a continuance of unfavorable weather over the whole belt, has led to a considerable broadening of trade and speculative activity. So far, however, hedge selling has not been much in evidence. It is generally believed that much higher prices may prevail despite the carry-over from last season of nearly 7,000,000 bales of lint cotton and the logical expectation that the recent advance, if sustained, must adversely affect consumption.

	High	Low	Sept. 2 Close	Aug. 18 Close
October	23.00	22.47	22.48	19.76
December	23.23	22.71	22.71	20.01
January	23.25	22.79	22.80	20.05
March	23.41	23.97	23.00	20.23

Tire Fabrics

The extremely unsettled condition of the cotton market and the present high prices is partly responsible for a general quietness in tire fabric business. A number of mills are still fairly well sold up while others have slowed up operations awaiting the opening of fall business and the general increase in activity which is expected as September advances. Prices in the fabric market have shown some advance since the rise in cotton, averaging from 3 to 6 cents on cords and chafers. Late prices follow:

CORD				
Peeler, carded, 25/5/3	lb.	.44	@	.45
Peeler, carded, 23/4/3	lb.	.44½	@	.46½
Peeler, carded, 13/3/3	lb.	.43	@	.46
Peeler, carded, 15/3/3	lb.	.42½	@	.44
Egyptian, carded, 23/5/3	lb.	.62	@	.64
Egyptian, combed, 23/5/3	lb.	.68	@	.73
CHAFERS				
Carded American, 8 oz.	lb.	.40	@	.42
Carded American, 10 oz.	lb.	.43½	@	.45
Carded American, 12 oz.	lb.	.43	@	.44
Carded American, 14 oz.	lb.	.45	@	—
LENO BREAKER				
Carded American, 8¼ oz.	lb.	.41½	@	.42
Carded American, 10½ oz.	lb.	.42	@	.43
SQUARE WOVEN				
Carded American, 17½ oz. 23-11 ply	lb.	.44	@	.49
Carded American, 17½ oz. 10-5 ply	lb.	.40	@	.41

Sheetings

In the past fifteen days sheeting sales have usually been in small quantities, with several constructions taken in fair volume. On 40-inch, 3.75-yard, a fair amount brought 10½c; 40-inch, 2.50-yard, 14½c, with some asking 14¾c on this construction. Sales were good on 40-inch, 2.85-yard at 12¾c. Quotations have remained generally firm, the rise in cotton prices not affecting sheetings in any serious way so far. Prices follow:

40-inch 2.50-yard	yd.	.13	@	.14¼
40-inch 2.85-yard	yd.	.12¾	@	.13
40-inch 3.15-yard	yd.	.12½	@	.13
40-inch 3.60-yard	yd.	.11¾	@	.12
40-inch 3.75-yard	yd.	.10¼	@	.10½
40-inch 4.25-yard	yd.	.09	@	.09½

Ducks

Prices on cotton ducks have advanced sharply since the recent rise in cotton, and in consequence activity has been confined to small lots. Occasional small lots are being taken in various quarters at prices which show moderate variations. Mills have fair orders on their books to keep the looms running for a while. Late prices follow:

Belting and Hose	lb.	.36	@	—
Enameling	lb.	.37	@	.45
Shoe Ducks	lb.	.34	@	.40
Single filling	lb.	.16½	@	.19½
Double filling	lb.	.19	@	.21½

RECLAIMED RUBBER

Movement of reclaimed rubber supplies continues at a lively pace. Factories increased their production schedules during the second half of August and more reclaimed rubber was shipped than earlier in the month. Buyers seem to be wary of present prices and as a result are not laying in large stocks. Prices have been firm with a few changes reported.

High Tensile				
Super-Reclaim No. 1 Black	lb.	.17½	@	.18
Super-Reclaim No. 2 Black	lb.	.14	@	.14½
High Tensile Red		.14	@	.14½
Shoe				
Unwashed	lb.	.08	@	.08¼
Washed	lb.	.10¼	@	.10¾
Tube				
No. 1 (Floating)	lb.	.17	@	.17½
No. 2 (Compounded)	lb.	.13½	@	.14½
Tires				
Black, washed		.10	@	.10¼
Black, unwashed		.08¼	@	.08½
Black selected tires	lb.	.08¾	@	.09
Dark Gray	lb.	.12	@	.12¼
Light Gray	lb.	.13	@	.13¼
White	lb.	.15	@	.15½
Truck, Heavy Gravity	lb.	.07½	@	.07¾
Truck, Light Gravity	lb.	.08	@	.08¼
Miscellaneous				
Mechanical Blends	lb.	.07	@	.08
Red	lb.	.14	@	.14½

SCRAP RUBBER

According to scrap rubber dealers, demand for stocks by reclaimers has been steady in the past fortnight with a weak undertone being shown. Dealers are not satisfied with the present volume of business and are expecting conditions to improve shortly. Stocks continue to be scarce. Several quotations have changed, latest prices being as follows:

(Prices to Consumer)

Auto tire peelings	ton	35.00	@	37.50
Standard White auto	ton	57.50	@	60.00
Mixed auto	ton	25.00	@	26.00
Bicycle tires	ton	24.00	@	25.00
Clean solid truck tires	ton	26.00	@	27.00
Boots and shoes	lb.	.01¾	@	.01⅞
Arctics, trimmed	lb.	.01½	@	.01⅝
Arctics, untrimmed	lb.	.00⅞	@	.01
Inner tubes, No. 1	lb.	.08	@	.08½
Inner tubes, No. 2, compounded	lb.	.05¾	@	.06
Inner tubes, Red	lb.	.06½	@	.06¾
Air Brake Hose	ton	35.00	@	37.50
Rubber Hose	ton	15.00	@	17.00

CRUDE RUBBER

IN the past fortnight crude rubber trading on the outside market has been influenced by the uncertainty of future prospects in regard to restriction and a continued absence of consuming demand. A very limited demand and a barely steady undertone were the outstanding features of the market toward the end of August. In consequence prices began sagging on the 23rd until on the 30th ribbed smoked sheets were trading at 33¾c per pound, the lowest quotation that has occurred so far this year. The average spot closing price of smoked sheets for August is 35.12 which is somewhat better than July but lower than the average spot price for June. Late quotations follow:

Plantations—			
Ribbed Smoked Sheets			
Spot	.33¼	@	.34
September	.33¼	@	.34
November/December	.34	@	.34½
January/March	.37⅞	@	.35½
First Latex, crepe spot	.33⅞	@	.34⅛
Amber Crepe, No. 2, spot	.30	@	.30¼
Amber Crepe, No. 3	.29½	@	.29¾
Amber Crepe, No. 4	.29	@	.29½
Brown Crepe, Rolled	.27½	@	.27¾
Brown Crepe, Clean, thin	.29⅞	@	.30⅛
Brown Crepe, Specky	.29⅜	@	.30
Liquid Latex, per gal.	1.50	@	1.75
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.29¾	@	.30¼
Up-river Medium	.29	@	—
Up-river Coarse	.18¾	@	.19¼
Acre Bolivian, fine	.30¼	@	.30¾
Tapajos, fine	.39	@	—
Cut Beni Bolivian, fine	.45	@	—
Caucho Ball—			
Upper, shipment	.19½	@	.20
Island, fine	—	@	.25½
Centrals—			
Corinta, scrap	.27	@	—
Esmeraldo, sausage	.20½	@	.21
Guayule, washed and dry	—	@	.28
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
Congo, upper, red	Nominal		
Balata—			
Block, Columbia	.35½	@	.38
Block, Cuidad	.34½	@	.35
Gutta Percha—			
Siak	.24	@	—
Red Macassar	3.00	@	—

LONDON MARKET

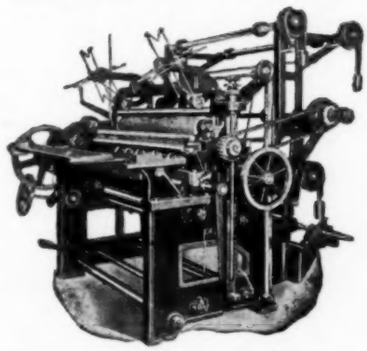
Standard Ribbed Smoked Sheets—*Buyers*			
Spot	.16⅝	@	.16¾d
September	.16⅝	@	.16¾d
October/December	.16⅞	@	.17d
January/March	.17⅛	@	.17⅛

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*			
Spot	.17⅛	@	—
September	.16¼	@	—

Recent daily closing prices on the Rubber Exchange of New York are shown on the Financial Page in the News Section of this issue. Daily spot prices of Ribbed Smoked Sheets are given in the Statistical Section.

CAMACHINE 6-C



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LATE RUBBER CHEMICAL PRICES

Accelerators — Colors — Softeners — Compounding Materials

SEPTEMBER 3, 1927

THE market for rubber chemicals and compounding materials continues routine, with no marked changes reported. Supplies were in better demand late in August, and, inasmuch as factories are continuing to increase their production schedules, it appears that September will make a very satisfactory showing. Buyers seem to be satisfied to purchase supplies in small quantities for current needs, but it is expected that after the Labor Day week-end conditions will begin to show improvement.

Several accelerators are now quoted lower and titanium whites have been reduced to 10@10½. A new mineral rubber, Montezuma brand, is listed here for the first time. Several other materials announced during the last few weeks include "Stabilite" and a low temperature accelerator, Thermlo F. Prices in general have been firm, with few changes recorded.

ACCELERATORS

Organic				
A-7	lb.	.70	@	.80
A-11	lb.	.75	@	.90
A-16	lb.	.65	@	.85
A-19	lb.	.75	@	.90
Aldehyde ammonia, crystals	lb.	.65	@	.70
Aniline oil, drums	lb.	.17	@	.17½
Cryiene	lb.	.70	@	—
paste	lb.	.50	@	—
Di-Ortho-Tolylguanidine	lb.	.85	@	.90
Diphenylguanidine	lb.	.68	@	.72
Ethylidene aniline	lb.	.60	@	.65
Excellerex	lb.	.35	@	.40
Formaldehyde Aniline	lb.	.38	@	.42
Grasselerator 102	lb.	.65	@	.70
Grasselerator 552	lb.	4.45	@	4.60
Grasselerator 808	lb.	1.05	@	1.35
Grasselerator 833	lb.	1.50	@	1.75
Piperidine-Piperidyldithio-Carbamate	lb.	4.45	@	4.60
Heptene	lb.	.55	@	—
Hexamethylene-tetramine	lb.	.65	@	.70
Lithex	lb.	.18	@	.20
Monex	lb.	3.25	@	—
Quinoidine	lb.	.40	@	—
R & H 40	lb.	.50	@	.55
R & H 50	lb.	.50	@	.55
Safex	lb.	1.20	@	1.25
Tensilac, No. 39	lb.	.55	@	.60
Tensilac, No. 41	lb.	.65	@	.70
Thiocarbanilide, kegs	lb.	.26	@	.28½
Thionex	lb.	3.25	@	—
Trimene	lb.	.75	@	—
base	lb.	1.20	@	1.35
Triphenylguanidine	lb.	.65	@	.70
Vulcanex	lb.	.82	@	.86
Vulcone	lb.	.70	@	.74
Z 88	lb.	.75	@	1.00
Inorganic				
Lead, sublimed blue	lb.	.08¼	@	.08¾
Lead, white	lb.	.08¼	@	.08¾
Litharge, domestic	lb.	.11	@	.13
Magnesia, calcined, light	lb.	.06	@	.12
heavy	lb.	.04	@	.04½

COLORS

Blacks (See Compounding Materials)				
Blues				
Prussian	lb.	.33	@	.35
Ultramarine	lb.	.08	@	.35
Browns				
Sienna, Italian	lb.	.05	@	.12½
Umber, Turkey	lb.	.04½	@	.06
Greens				
Chrome, light	lb.	.27	@	.31
medium	lb.	.29	@	.32
dark	lb.	.31	@	.34
Chromium Oxide, bbl.	lb.	.35	@	.38
Reds				
Antimony crimson, 15/17	lb.	.40	@	—
sulphur free	lb.	.50	@	.52
golden 15/17 F.S.	lb.	.16	@	.25
Indian English (dom.)	lb.	.08	@	.10
Oximony	lb.	.13¼	@	—
Para toner	lb.	.13	@	.14
Red oxide, reduced	lb.	.10	@	.11
pure	lb.	.14	@	.15
Venetian red	lb.	.02	@	.06
Vermillion, quicksilver, English	lb.	1.85	@	1.95
Whites				
Lithophone, Akcolith	lb.	.05 3/5	@	.06
Lithophone, Azolith	lb.	.05¼	@	.05¾
Lithopone, Vanolith	lb.	.05¾	@	—
Titanox	lb.	.10	@	.10½
Cal. Base Pigment	lb.	.10	@	.10½
Zinc Oxide—American Process				
American Azo:				
ZZZ (lead free)	lb.	.06½	@	.07
ZZ (leaded)	lb.	.06⅝	@	.07⅛
Zinc Oxide—French Process				
White seal	lb.	.11⅞	@	—
Green seal	lb.	.10⅞	@	—
Red Seal	lb.	.09⅞	@	—
Yellows				
Chrome	lb.	.17	@	.20
Ocher, French medium	lb.	.03½	@	.06
domestic	lb.	.01⅝	@	.02

COMPOUNDING MATERIALS

Aluminum Flake	ton	21.85	@	24.50
Ammonia carbonate	lb.	.13½	@	.14
Are-O-Sol	ton	8.00	@	11.00
Asbestine	ton	14.75	@	18.00
Barium carbonate	lb.	.02¼	@	.04
Barium Dust	lb.	.05	@	.06
Barytes southern off-color,	ton	12.00	@	18.00
Western prime white	ton	23.00	@	—
imported	ton	27.00	@	36.00
Basofor	lb.	.04½	@	—
Blacks				
Arrow "Aerfloted"	lb.	.09	@	.13
Bone Black	lb.	.05½	@	.11
Carbon, compressed	lb.	.07½	@	.11½
Carbon, uncompressed	lb.	.07	@	.11
Drop Black	lb.	.06	@	.10
Lamp Black	lb.	.12	@	.40
Micronex	lb.	.08	@	.12
Velvetex carbon	lb.	.04	@	.07
Blanc fixe dry f.o.b. works	lb.	.04	@	—
Carrara filler	lb.	.01¾	@	.02
Catalpo (fact.)	lb.	.02	@	—
Chalk	ton	12.00	@	14.00
Clay, China, domestic	ton	8.00	@	9.00
Aerfloted Suprex	ton	9.00	@	20.00
Mineral Flour, c. l. fob mine	ton	20.00	@	23.00
Tensulite		15.00	@	—
Glues, extra white	lb.	.20	@	.29
medium white	lb.	.19	@	.25
common bone	lb.	.14	@	.15
Magnesia, carbonate	lb.	.07½	@	.10
Mica, powdered	ton	90.00	@	100.00
Rotten Stone (powdered)	lb.	.02½	@	.04½
Soapstone, powdered	ton	15.00	@	22.00
Starch, powdered	cwt.	3.30	@	3.70
Talc, domestic	ton	16.00	@	18.00
Velvetex	lb.	.04	@	.07
Whiting, commercial	cwt.	.85	@	1.00
English cliffstone	cwt.	1.50	@	—
Superfine	ton	10.00	@	12.00
Vansulite	ton	12.00	@	—
Wood pulp XXX	ton	45.00	@	—
Wood pulp X	ton	25.00	@	—
Zinc Carbonate	lb.	.10	@	.12

MINERAL RUBBER

Genasco (factory)	ton	50.00	@	52.00
Montezuma, solid	ton	28.00	@	36.00
Montezuma, granulated	ton	32.00	@	42.00
Paradura	ton	62.50	@	65.00
Pioneer, MR, solid	ton	41.00	@	43.00
Pioneer—granulated	ton	51.00	@	53.00
Robertson, MR, solid	ton	34.00	@	80.00
M.R. (gran)	ton	34.00	@	80.00

SOFTENERS

Acids				
Nitric, 36 degrees	cwt.	5.00	@	5.25
Sulphuric, 60 degrees	ton	10.50	@	11.50
66 degrees	ton	15.00	@	16.00
Tartaric, crystals	lb.	.31½	@	—
Acids, Fatty				
Stearex	lb.	.10	@	.14
Stearic, single pressed	lb.	.10	@	.11
Double pressed	lb.	.11½	@	.12
triple pressed	lb.	.13½	@	.14
Alkalies				
Caustic soda, 76%	cwt.	3.76	@	3.91
Soda ash, 58% C.L.	cwt.	1.42½	@	1.45
Oils				
Castor, No. 3 bbls.	lb.	.12	@	.13
Corn, crude, bbls.	lb.	.09¾	@	.10
refined	lb.	.11	@	—
Cottonseed, crude		.08	@	—
Cycline	gal.	.27	@	.34
Dispersol A (light)	lb.	.15	@	.16
Dispersol B (dark)	lb.	.14	@	.15
Fluxrite	lb.	.05	@	.06
Glycerine, C.P. drums	lb.	.26	@	.26½
Linseed, Raw C.L. bbl.	lb.	.10½	@	.11½
Palm Lagos	lb.	.07¼	@	.07½
Niger	lb.	.07¾	@	.08
Vansulol	lb.	.10½	@	—
Peanut, domestic, crude	lb.	.11	@	—
Petrolatum, white	lb.	.08⅞	@	.09
amber	lb.	.03¾	@	.04
dark amber	lb.	.03¾	@	.03½
Pine, steam distilled	lb.	.70	@	.72
Rapeseed, refined	gal.	.82	@	.83
Rosin, first rectified	gal.	.70	@	—
second rectified	gal.	.73	@	—
Resins and Pitches				
Pitch, Burgundy	lb.	.06½	@	.07½
coal tar	gal.	.05½	@	.06
pine	bbl.	9.00	@	10.00
Rosin, grade K	bbl.	10.75	@	—
Pigmentar	gal.	.33	@	.41
Tar Retort	bbl.	16.50	@	17.00
Solvents				
Acetone, pure	lb.	.14½	@	—
Alcohol denatured, No. 1 bbls.	gal.	.37½	@	.44½
Benzol, 90%	gal.	.28	@	—
pure		.29	@	—
Carbon bisulphide	lb.	.05½	@	.06¼
Carbon tetrachloride		.06¾	@	.07½
Motor gasoline, steel bbls.	gal.	.20	@	—
Naptha, V. M. & P.	gal.	.14	@	—
Turpentine, spirits	gal.	.65	@	.67
wood	gal.	.63	@	.64
Waxes				
Beeswax	lb.	.58	@	.60
Carnauba	lb.	.40	@	.50
Ceresin, white	lb.	.13	@	.14
Montan, crude	lb.	.07	@	.07½
Ozokerite, black	lb.	.30	@	—
green	lb.	.26	@	.30
Miscellaneous				
RSL Mold Solution	gal.	.75	@	1.00

ANTI-OXIDANTS

Antox	lb.	.81	@	.83
VGB	lb.	.55	@	.66

SUBSTITUTES

Black	lb.	.08	@	.14
White	lb.	.10	@	.16
Brown	lb.	.10	@	.15

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Sulphur Chloride (drums)	lb.	.03½	@	.06
Sulphur flour,				
Superfine bags	cwt.	2.20	@	2.80
Superfine, bbls.	cwt.	2.55	@	3.10
100% pure, refined, bags	cwt.	2.60	@	3.15
bbls.	cwt.	2.95	@	3.50

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Not only has the rapidly increasing number of advertisers in this section necessitated the addition of an extra page each issue, but the new arrangement of placing each listing in its proper classification will make THE MARKET PLACE of greater usefulness to our readers and advertisers.

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Chemicals and Compounding Materials — Machinery and Equipment—Crude, Reclaimed and Scrap Rubber—Fabrics—Rubber Products — Consulting Engineers.

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Uniformity, reliability, cleanliness.
Pequanoc Rubber Co.
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RECLAIMED RUBBER—
A standardized grade for every requirement.
U. S. Rubber Reclaiming Co., Inc.
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"44 Years Serving the Industry Solely as Reclaimers"

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CAPACITY 250,000 Pounds Daily

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For Various Rubber Stocks
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TIRES & TUBES
CRUDE RUBBER

STATISTICAL SECTION

AUTOMOBILES
GASOLINE

RUBBER invoiced for shipment to the United States during the week ended August 27 totaled 7,057 long tons, the highest figure reached since the week of July 16, and an increase of nearly 800 tons over the preceding week, according to cabled reports to the Department of Commerce. The greatest increase occurred from the Dutch East Indies from which 2,009 long tons of rubber was invoiced in the week of August 27, compared to 1,007 long tons invoiced in the preceding week.

Gross imports of crude rubber for the month of July totaled 37,678 long tons at an average declared value of 37.53 cents per pound. This compares with gross imports of 33,045 long tons for the month of June at an average declared value of 36.28 cents per pound. Re-exports for the July period amounted to 1,958 long tons at an average declared value per pound of 35.58 cents. In this connection it is interesting to note that the average declared value of crude rubber re-exports is less than the average declared value of imports.

Crude rubber consumption for the April to June quarter, based on 100%, totaled 103,242 long tons which compares with 99,216 long tons consumed in the first quarter of this year. This is the largest quarterly crude rubber consumption figure reported since 1925.

While a decrease of 583 tons occurred in the London crude rubber stocks at the end of the fourth week in August, the average for the four weeks of August has been somewhat larger than the previous weeks of July.

PLAN OF THE SECTION

The statistics included in this section have been chosen for their constant importance to the rubber industry. The tables are reprinted in the same relative position in every issue, each table being kept current by the addition of new figures as soon as they become available. The section accordingly affords the most up-to-date, complete and convenient statistical service in the industry.

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U. S. Imports and Exports of Crude Rubber

	Gross Imports			Re-exports			Net Imports
YEARS	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons	Total Declared Value	Average Declared Value per pound Cents	Long Tons
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926	413,338	505,817,807	54.63	17,671	22,470,583	56.77	395,667
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct	34,651	50,027,338	64.45	1,132	1,989,291	78.43	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20	1,554	1,743,854	50.09	34,266
Aug.	27,400	24,670,752	40.21	1,318	1,339,563	45.38	26,082
Sept.	37,112	32,625,032	39.02	1,437	1,519,870	47.20	35,675
Oct.	29,333	25,300,483	38.50	1,366	1,316,270	43.02	27,967
Nov.	38,925	34,661,631	39.97	1,482	1,320,461	42.00	37,443
Dec.	37,754	33,261,366	39.33	1,904	1,841,305	43.16	35,850
1927:							
Jan.	43,340	36,753,719	37.99	1,526	1,444,734	42.22	41,814
Feb.	28,338	23,110,257	36.41	2,451	2,277,297	41.47	25,887
Mar.	35,514	28,693,026	36.07	2,763	3,249,665	52.50	32,751
Apr.	46,202	37,284,806	36.15	1,575	1,428,425	40.45	44 627
May	36,543	30,998,657	37.87	2,782	2,501,562	41.74	33,761
June	33.045	27,833,770	36.28	1,775	1,550,592	38.99	31.270
July	37,678	31,678,259	37.53	1,958	1,560,853	35.58	35,720
Sept.							
Oct.							

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

Figures on Monthly Basis

	1921	1922	1923	1924	1925	1926	1927
January	5,045	16,938	30,106	29,058	29,638	32,196	31,518
February	5,955	14,767	30,149	25,736	29,761	31,136	30,137
March	9,190	21,408	36,629	28,385	33,498	32,936	36,141
April	13,084	19,294	29,085	27,129	34,139	32,696	35,871
May	16,023	23,246	36,155	25,845	35,322	29,364	34,592
June	16,142	31,713	24,272	22,753	35,822	28,598	33,801
July	18,310	24,522	17,685	23,396	36,053	27,577	29,219
August	23,649	29,361	20,359	28,982	35,909	34,533	
September	16,705	24,410	17,594	31,497	31,691	32,904	
October	16,814	26,881	21,321	31,520	29,047	29,836	
November	14,105	24,950	20,437	27,289	28,853	28,080	
December	15,482	25,070	21,902	27,199	28,748	26,293	
Totals	170,504	282,560	305,694	328,769	388,481	366,149	

Figures on Quarterly Basis

Quarter	1921	1922	1923	1924	1925	1926	1927
Jan./Mar.			96,776	87,609	95,263	94,301	99,216
Apr./June	65,463	127,360	89,493	75,674	104,099	87,109	103,242
July/Sept.			55,621	83,813	99,493	93,793	
Oct./Dec.	105,962	155,067	63,617	92,656	85,789	83,212	
Totals	171,425	282,427	305,507	339,752	384,644	358,415	

Note—The Rubber Association estimates its monthly rubber consumption figures to be 90 per cent complete. Up until 1925 the quarterly figures were likewise estimated to be 90 per cent complete; beginning with 1925 an estimate of 92 per cent completeness has been used. These estimates have been used in raising the figures in this table to 100 per cent. The quarterly figures are generally regarded as the most authentic; the monthly figures may be accepted as preliminary.

Rubber Invoiced to the U. S.

(Reported by American Consuls—Quantities in Long Tons)

During the Week Ended	From Br. Malaya	From Ceylon	From Dutch East Indies	From London & Liverpool	Total
June 25	5,256	922	1,331	2,971	10,480
July 2	5,141	646	837	988	7,612
July 9	3,646	371	651	830	5,498
July 16	4,062	438	1,968	1,380	7,848
July 23	3,005	845	1,201	1,705	6,756
July 30	4,215	657	1,342	315	6,529
August 6	3,205	650	1,884	320	6,059
August 13	3,955	825	1,646	112	6,538
August 20	3,981	582	1,007	678	6,248
August 27	4,121	760	2,009	167	7,057

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Ave.
1925																																
January	—	39⅝	39⅝	39	39	39¼	38⅛	38⅝	38⅝	38⅞	—	37⅞	36½	36⅞	35	35⅞	35⅞	35⅞	34⅞	34⅞	35	35½	36¼	36⅛	—	35⅝	35⅛	35⅝	35	—	35⅞	36⅜
February	—	35¾	34⅝	34½	34½	35⅜	—	—	34⅜	—	35¼	—	35⅞	—	—	36⅞	—	36⅞	36⅜	36⅜	36⅜	—	37⅛	37⅛	—	35⅞	37⅞	36⅞	—	—	—	36
March	—	38⅞	38⅛	38⅞	38⅞	39¼	42⅛	43⅛	—	39⅝	40¾	39⅝	40⅞	40⅜	—	40⅞	41	41⅞	41⅞	41⅞	41⅞	42½	43½	42⅞	43½	43½	43⅞	43⅞	44⅛	44⅛	42¾	41
April	41¼	41⅞	41¾	41⅞	42⅛	42⅛	50⅞	52⅛	52½	52⅛	52⅜	52⅜	52⅜	52⅜	44⅜	44⅞	44⅞	44⅛	44	44⅛	44⅛	43⅞	43⅞	43⅞	44⅛	44⅛	44⅞	45⅜	44⅛	—	—	43⅞
May	45	45⅞	47¼	46⅞	46⅞	47¼	75⅞	74⅞	74⅞	73⅞	74	75¼	74⅞	74⅞	60⅜	60¾	60⅜	64⅜	63	61⅜	60⅜	61⅞	65	63	63	62⅝	63¼	65⅞	69½	—	—	58½
June	69½	72	74⅞	74⅞	75⅞	76½	85⅞	85⅞	90½	94⅝	95⅜	99⅝	106⅞	72⅛	71⅜	71⅜	72⅜	73⅛	75½	76¼	—	79¼	83½	85⅜	85⅞	82⅞	89⅜	85⅞	82⅞	—	—	77¼
July	81⅜	81⅞	85⅞	88⅜	88⅜	90½	94⅜	95⅜	99⅝	106⅞	—	110	105⅝	110⅝	117	116¾	118⅝	—	121	117⅛	119	117⅝	112¼	112¼	—	—	107⅜	96¾	89¾	—	93¾	103⅜
August	94½	—	95½	86⅜	85¾	81¾	79	78¼	80½	72½	76½	81½	80⅝	77¾	—	78¼	80½	82½	—	83½	82½	82½	82½	82½	85¼	85¼	85¼	85¼	87¼	90	83
September	88¼	87¼	85	88⅜	81¼	81¾	78¼	80½	83	92½	92	92½	93⅜	92⅜	93½	93¾	92⅜	94¾	—	92	89	93½	90	89	98	99½	89¾	91¼	91½	—	88⅞
October	91¼	91¾	92	—	94½	97½	99	99¼	101	—	100¼	—	97⅜	95½	97	99⅛	99⅛	99¼	101¼	102	99¼	99¼	99¼	99¼	98	99¼	101½	99¾	100¼	—	98
November	—	99¾	—	98⅜	98¼	100	108	—	109¾	106	105½	105½	—	101	99¼	90¼	93	88¼	86⅜	88¼	110½	109¾	110¾	109	106¼	—	108¾	107	—	—	104⅜
December	106¾	108½	107⅜	107¼	108¼	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	88¼	90¼	88¾	88¾	—	—	—	91	91¼	93	91¼	98½
1926																																
January	—	—	—	87	87¼	85½	86½	87½	87⅜	—	88½	88¼	88¾	85½	84½	82½	—	75½	75½	75½	75	72	72½	68	68	66½	67	69¼	70½	69	—	79½
February	—	67	66¼	66¾	68	69	—	—	69	67	66	66	65½	—	63	60½	60½	60	59	60	—	56	55	52	51¼	51	—	—	—	—	—	62¼
March	—	55	58	53	53½	57½	—	—	56	55½	61	63	61½	—	62	60½	61	62	61	61½	—	61½	61	60	59½	60	—	—	59½	58½	58	59
April	59	—	59	—	59	58	56½	56½	53	—	49½	51½	50½	49¼	47½	48½	47	47	47½	48½	47½	48	48	48	48	48	48	48	49	48½	—	51¼
May	48½	—	50	50¼	49¼	49¾	49¼	49½	—	49	49½	48½	47⅝	47½	47½	—	47	47	47½	47½	47¼	46⅜	—	46	45	45	45	45	46	—	47⅜	47¾
June	41½	42	41½	42	41½	41½	42	42	—	43	42	43	43	43½	—	43	43	43	43	43	44	44	43½	43	43	42	42	42	42	—	42	42½
July	42	42	42	42	42	41½	41½	41½	—	41½	41½	41½	41	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41	39½	—	39	41¼
August	—	38¾	38½	37	37	38¼	—	41½	38¾	37⅝	—	37½	37½	37½	37⅜	37⅜	38	38	39	39	39	39	39½	39¼	39	39	39	39	39½	39	40	38½
September	40¼	40¼	40¾	—	—	—	—	—	40¼	40¼	40¾	40½	40¾	40¼	40¼	40¼	40½	40½	41	41	41½	42¼	42	42	42¼	42⅜	42⅜	42⅜	42½	—	—	41
October	43	—	—	43¼	42¾	42¾	42½	42½	—	42⅝	42½	42⅝	43⅜	42⅝	—	42⅝	42½	42⅝	—	42⅝	42½	42½	—	42½	42½	42⅜	42⅜	42⅜	42½	—	—	42½
November	41¼	—	41	41¼	41¼	41½	—	42⅜	41½	41½	41½	41½	41¼	41¼	—	41¼	41¼	41¼	—	41¼	41¼	—	38	38	—	38	37⅜	37	38	—	—	38½
December	36¾	37½	37½	37½	37½	—	37	37	37	37	37½	37½	37½	37½	37⅜	37⅜	38	38	38¼	38¼	38½	38½	38½	38½	38	38	39	39	38½	38¼	38½	38¼
1927																																
January	—	—	—	38½	39	39¾	40¾	40¾	40¾	40½	40¾	40½	40¾	—	40¾	40¾	40¾	40¾	40	39⅞	39¾	39¾	38¾	38¾	38¾	38¾	38¾	38½	38¾	38¾	38¾	38¾
February	—	37⅜	37⅝	40¼	37½	37⅝	40¼	37⅝	37⅝	40¼	37⅝	37⅝	38	40¼	40¼	40¼	40¼	40¼	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾	38¾
March	—	39⅝	40	41	40¼	40⅝	42½	40⅝	40⅝	42½	42½	42½	43¾	42½	42½	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41⅝	41¾
April	—	41¼	41¼	41¼	41¼	41¼	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½
May	—	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼	41¼
June	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝	40⅝
July	35½	—	—	—	—	—	—	—	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼	35¼
August	35¼	35¼	35¼	35¼	35¼	35½	35½	35½	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾	35¾
Sept.	33¾	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34
Oct.																																
Nov.																																
Dec.																																

Average Spot Closing Prices—Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1921

Year	Cents	Year	Cents	Year	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23	1921	16.36

Average Monthly Price per Pound Since 1922

Months	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents	1927 Cents	1928 Cents
Jan.	18.82	32.73	25.86	36.71	79.50	38.75	
Feb.	16.12	35.14	25.29	36.01	62.25	38.25	
Mar.	14.53	34.21	22.83	41.00	59.00	41.04	
Apr.	15.99	32.48	22.51	43.64	51.25	40.86	
May	15.25	27.39	18.89	58.47	47.75	40.76	
June	15.11	26.88	18.81	77.26	42.50	37.25	
July	14.67	26.10	22.16	103.16	41.03	34.44	
Aug.	13.93	28.84	26.17	82.99	38.50	35.12	
Sept.	14.44	28.95	27.56	88.88	41.00		
Oct.	19.78	26.93	31.13	98.01	42.50		
Nov.	23.88	27.14	34.33	104.80	38.50		
Dec.	27.42	26.60	37.88	98.51	38.25		
Average for Year	17.50	29.45	26.20	72.46	48.50		

London Closing Prices of Ribbed Smoked Sheet

(In Pence Per Pound)

Fifth Restriction Year—Fourth Quarter

Day	Aug.	Sept.	Oct.	Day	Aug.	Sept.	Oct.
1	—	16¾		16	17⅝		
2	16⅞	16⅝		17	17⅝		
3	17			18	17⅝		
4	17⅛			19	17⅜		
5	17¼			20	17¼		
6	17¼			21	—		
7	—			22	17¼		
8	17⅛			23	17¼		
9	17⅛			24	17¼		
10	17¼			25	17		
11	17½			26	17		
12	17⅝			27	17		
13	17¾			28	17		
14	—			29	16⅞		
15	17⅜			30	16¾		
				31	16⅞		

(The average price for the period for which daily prices are reported above is approximately 17.136 pence. The British Colonial Secretary has announced that only 60% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26	1926-27
November-January	14.285	14.175	17.9983	46.709	19.265
February-April	16.858	12.917	19.356	28.103	19.696
May-July	14.242	10.947	38.469	21.001	18.165
August-October	14.944	14.632	43.269	20.199	

Spot Closing Cotton Prices

(Middling Upland Grade—New York Market)

Recent Daily Price Per Pound

Day of Month	Aug. Cents	Sept. Cents	Day of Month	Aug. Cents	Sept. Cents	Day of Month	Aug. Cents	Sept. Cents
1	18.25	23.10	11	19.70		21		
2	17.85	22.70	12	19.40		22	21.00	
3	17.00	22.60	13	18.90		23	21.40	
4	17.45		14			24	21.70	
5	17.10		15	19.40		25	21.55	
6	17.25		16	19.95		26	21.95	
7			17	19.95		27	22.60	
8	19.45		18	20.00		28		
9	19.95		19	20.45		29	23.25	
10	19.70		20	21.10		30	22.50	
						31	22.40	

Average Monthly Price Per Pound

Month	1925 Cents	1926 Cents	1927 Cents	Month	1925 Cents	1926 Cents	1927 Cents
Jan.	23.99	20.85	13.42	Aug.	23.72	18.57	20.04
Feb.	24.70	20.60	14.10	Sept.	23.79	17.02	
Mar.	25.64	19.35	14.32	Oct.	21.77	13.14	
Apr.	24.54	19.13	14.75	Nov.	20.94	12.86	
May	23.41	18.92	16.07	Dec.	20.06	12.68	
June	24.13	18.57	16.85	Average			
July	24.68	18.71	18.00	for Year	23.45	17.53	

Stock of Crude Rubber in the U. S.

(All Quantities in Long Tons)

At	ON HAND			AFLOAT			AND AFLOAT ON HAND		
End of	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	60,870	55,198	76,172	36,759	46,296	45,312	97,629	100,434	121,484
Feb.	54,109	58,035	91,186	41,475	46,935	42,166	95,584	104,970	133,352
March	52,494	61,822	85,740	40,577	43,567	49,600	93,071	105,389	135,340
April	50,143	55,261	92,757	53,465	41,905	38,963	103,608	97,166	131,720
May	52,064	64,360	94,563	46,846	40,303	44,181	98,910	104,663	138,744
June	50,997	60,460	89,250	51,202	40,907	47,233	102,199	101,367	136,483
July	46,245	64,900	98,469	46,003	38,062	40,587	92,248	102,962	139,056
Aug.	42,354	60,870		41,254	37,360		83,608	98,230	
Sept.	36,367	62,078		55,151	42,464		91,518	105,542	
Oct.	34,085	64,989		51,098	52,930		85,183	117,919	
Nov.	34,885	69,385		42,692	47,311		86,577	116,696	
Dec.	51,215	72,520		48,208	52,020		99,423	124,540	

(Rubber Association of America figures raised to 100%.)

Stock of Crude Rubber in London

(No. of tons in Wharves and Warehouses, including Latex)

At end of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,252	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,005
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	23,894
July	25,346	71,065	71,515	49,937	52,073	4,258	27,727
August	30,674	73,211	72,112	48,427	49,700	4,619	30,764
September	35,504	72,175	70,977	54,523	44,011	5,453	35,077
October	41,743	69,229	68,536	58,891	37,523	5,086	42,141
November	45,550	70,786	68,548	60,074	33,593	3,869	44,057
December	50,652	69,792	72,299	60,246	29,488	5,697	48,921

At End of Recent Weeks

1926	First Saturday	Second Saturday	Third Saturday	Fourth Saturday	Fifth Saturday
December	44,395	46,349	47,324	48,382	——
1927					
January	48,948	50,756	52,484	53,662	54,786
February	55,740	56,939	56,962	58,659	——
March	59,945	61,516	61,300	63,167	——
April	62,634	63,861	65,033	65,511	67,034
May	68,187	68,041	66,668	67,054	——
June	67,105	67,454	66,894	64,486	——
July	63,917	64,163	63,511	62,819	63,626
August	64,177	64,557	64,842	64,259	

Rubber in Singapore and Penang

(Stocks held by Dealers—Quantities in Long Tons)

End of	1925	1926	1927	End of	1925	1926	1927
Jan.	15,925	16,726	25,440	July	15,894	23,101	22,558
Feb.	17,320	13,653	26,766	Aug.	17,251	23,362	
Mar.	17,261	18,389	27,844	Sept.	16,526	25,997	
Apr.	15,368	16,328	24,543	Oct.	15,346	26,614	
May	15,804	16,967	25,133	Nov.	19,788	25,486	
June	15,884	19,416	21,898	Dec.	18,840	26,443	

Rims Inspected and Passed in U. S.

(Tire and Rim Association Reports)

	Total	Per Cent Balloons		Total	Per Cent Balloons
1923	23,140,620	0.6	1925	26,001,664	66.8
1924	21,863,311	19.7	1926	24,199,524	78.8
1927			1927		
January	1,489,078	77.0	July	1,679,587	84.4
February	1,753,224	84.4	August		
March	2,071,989	85.1	September		
April	2,060,868	88.0	October		
May	2,169,208	86.9	November		
June	1,871,538	77.0	December		

U. S. Consumption of Gasoline

(In Barrels of 42 Gallons)

MONTHS	1924	1925	1926	1927
January	11,918,000	14,386,000	17,582,000	17,888,000
February	9,626,000	13,210,000	15,814,000	18,240,000
March	10,961,000	14,890,000	19,302,000	22,464,000
April	14,583,000	19,013,000	20,848,000	23,371,000
May	15,889,000	20,459,000	24,213,000	26,579,000
June	16,421,000	20,724,000	23,803,000	27,799,000
July	18,610,000	22,879,000	24,752,000	29,784,000
August	19,825,000	22,323,000	26,912,000	
September	16,871,000	20,177,000	22,929,000	
October	18,029,000	19,826,000	23,973,000	
November	16,607,000	18,024,000	20,618,000	
December	15,663,000	17,954,000	21,419,000	
TOTAL	185,003,000	223,865,000	262,165,000	

U. S. Tire and Tube Statistics

(All Figures Represent Thousands)

AUTOMOBILE CASINGS

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	40,932	45,259	51,633	60,845	61,237
Shipments	39,987	45,204	50,120	59,262	59,002
Inventory[2]	6,132	5,772	7,427	8,142	10,456

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	4,740	4,587	4,965	4,013	2,974	4,932	7,949	9,947	10,432
Feb.	4,908	4,865	5,095	3,924	3,436	4,458	8,928	11,164	11,075
Mar.	5,276	5,456	6,276	4,657	4,561	5,701	9,510	12,004	11,583
Apr.	5,341	5,346	6,299	5,498	4,980	5,701	9,088	12,461	12,122
May	5,467	5,023	6,151	5,954	5,211	5,657	8,611	12,343	12,462
June	5,418	5,422	6,202	6,737	5,724	6,253	7,243	11,968	12,462
July	5,587	4,950		6,298	6,337		6,421	10,592	
Aug.	5,607	5,872		4,760	6,744		7,261	9,732	
Sept.	5,007	5,706		4,569	6,040		7,681	9,318	
Oct.	4,505	5,103		5,580	4,544		6,670	9,917	
Nov.	4,229	4,324		3,671	3,733		6,955	10,297	
Dec.	4,760	4,683		3,601	4,718		8,142	10,456	

AUTOMOBILE INNER TUBES

Figures for Recent Years

	1922	1923	1924	1925	1926
Production	50,850	60,116	70,706	82,614	76,618
Shipments	49,673	59,072	68,016	81,004	71,591
Inventory[2]	7,643	8,425	11,052	11,313	16,200

Figures for Recent Months

	PRODUCTION			SHIPMENTS			INVENTORY		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
Jan.	6,343	6,809	5,337	5,576	3,723	6,016	11,570	14,361	15,585
Feb.	6,339	6,825	5,658	4,971	3,736	5,120	13,023	17,090	16,075
Mar.	7,000	7,030	7,184	5,711	4,987	6,157	14,236	19,131	17,096
Apr.	6,851	6,554	7,373	6,704	5,051	6,359	13,618	20,674	17,801
May	6,846	6,149	6,737	8,040	6,304	6,140	12,501	21,141	18,389
June	6,942	6,171	6,306	9,032	6,898	6,832	10,409	20,243	17,858
July	7,544	5,729		9,140	8,569		8,635	17,267	
Aug.	7,618	7,424		6,923	9,579		9,271	15,462	
Sept.	7,254	7,590		6,665	7,762		9,950	15,312	
Oct.	6,612	6,208		7,845	5,474		8,726	15,929	
Nov.	6,266	4,852		5,406	4,045		9,491	16,604	
Dec.	6,999	5,277		4,991	5,463		11,313	16,200	

(1) Rubber Association of Amreica figures, raised to 100%. The Association estimates its figures to be 75% representative or complete when issued and that basis has been accepted when preparing the statistics in this table.

(2) Held by manufacturers at end of period indicated.

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
2914	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	328,816	315,863	12,953	41,847	39,592	2,255
August	393,040	380,258	12,782	47,907	45,404	2,503
September	363,537	350,913	12,624	51,299	46,428	4,871
October	300,142	289,547	10,595	46,965	42,890	4,075
November	226,278	219,504	6,774	39,410	36,356	3,054
December	143,413	137,361	6,052	30,002	28,302	1,700
TOTAL	3,928,323	3,766,336	161,487	534,082	493,453	40,629
1927						
January	208,718	196,973	11,745	40,874	37,243	3,631
February	275,458	260,632	14,826	41,947	38,118	3,829
March	360,754	341,665	19,089	48,590	45,056	3,534
April	373,961	353,071	20,890	48,216	44,495	3,721
May	374,259	352,268	21,991	47,890	44,173	3,717
June	290,188	273,718	16,470	43,003	40,265	2,738
July	242,144	233,425	8,719	32,249	29,981	2,268
August						
September						
October						
November						
December						

Exports of Crude Rubber from Principal Producing Countries

	BRITISH MALAYA[1]							DUTCH EAST INDIES[5]							
	Gross Exports	Imports	Gross Exports Minus Imports	Ceylon[2]	India & Burma[3]	Sarawak[4]	British North Borneo[3]	Siam[4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Indo-China[3]	Amazon Valley[6]	All Other[6]	World Total[7]
1925	316,825	158,022	158,803	49,566	10,082	5,424	5,377	1,718	32,930	46,344	57,822	5,067	16,765	7,856	406,955
1923	252,016	70,432	181,584	39,971	6,416	5,705	4,237	2,962	42,446	54,497	80,347	6,688	23,165	9,065	429,366
1924	259,706	108,524	151,182	39,997	7,697	6,699	4,621	5,377	46,757	65,499	120,626	7,881	25,298	13,797	517,523
1926:															
Jan.	30,452	10,237	20,215	4,246	1,273	416	289	275	4,444	6,125	10,614	549	1,213	1,279	49,310
Feb.	30,440	8,306	22,134	5,120	725	488	450	253	4,524	5,717	6,854	544	2,759	1,978	51,556
Mar.	35,012	14,800	20,212	5,177	1,113	792	561	418	4,527	5,566	11,984	573	2,126	1,899	54,948
Apr.	23,727	10,565	13,162	3,766	590	679	374	293	4,226	4,598	6,285	410	2,318	1,529	38,230
May	31,231	10,604	20,627	3,944	691	927	410	279	4,440	5,358	8,737	502	1,353	1,464	48,732
June	30,624	11,764	18,860	4,208	452	779	512	275	4,444	6,125	10,614	449	1,213	1,279	49,310
July	28,824	15,280	13,544	4,422	938	911	420*	439	4,618	6,612	13,112	1,521	1,565	1,148	48,250
Aug.	34,625	13,595	21,030	5,666	521	890	420*	316	4,132	5,699	10,390	378	1,888	1,097	*52,427
Sept.	35,913	13,972	21,941	6,015	651	888	420*	457	4,065	6,568	11,391	691	2,156	822	*56,055
Oct.	39,367	15,203	24,164	5,672	634	805	420*	385	4,058	6,998	11,491	661	1,904	1,023	*58,215
Nov.	34,302	12,201	22,101	4,228	1,110	685	420*	285	3,988	5,816	9,422	718	1,911	1,259	*51,943
Dec.	36,811	14,716	22,095	6,498	1,176	895	420*	338	5,054	7,117	12,786	790	3,821	714	*61,704
	391,328	151,243	240,085	58,962	9,874	9,155	5,299*	4,027	52,186	71,413	121,231	8,203	24,298	16,017	*620,750
1927:															
Jan.	34,946	14,995	19,951	6,697	921	959	500*	304	4,184	6,705	10,541	941	2,885	981	*55,569
Feb.	27,528	11,607	15,921	3,571	1,469	552	500*	360	4,707	6,526	10,634	675	2,082	1,098	*48,095
Mar.	41,346	17,464	23,882	7,142	1,124	997	500*	432	5,657	7,003	12,490	733	3,203	1,791	*64,954
Apr.	29,041	13,069	15,972	3,349	723	984	500*	526	4,666	5,530	10,035	557	2,374	1,495	*46,711
May	31,393	15,491	15,902	3,124	760	786	500*	348	5,430	5,528	14,099	586	2,431		
June	32,607	14,706	17,901	3,348		1,100	500*	409	4,818	5,519	9,402	772	1,030		
July	23,947	12,697	11,250									519	1,713		
Aug.															
Sept.															
Oct.															
Nov.															
Dec.															

(1) Mayalan net exports cannot be taken as production, since imported rubber is largely wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 115 tons in 1923, 1,117 in 1924, 3,618 in 1925, and 3,263 in 1926. (2) Ceylon Chamber of Commerce statistics until 1926; rubber exported as latex is not included—such shipments were equivalent to 18 tons in 1923, 93 tons 1924, 6 tons 1925, and about 20 tons in 1926. (3) Official statistics. (4) Imports into Singapore and Penang. (5) Exports from "Other D.E.I." are chiefly wet native rubber, which is reduced about one-third in weight by remilling; rubber exported as latex is not included which on a basis of 3½ pounds per gallon amounted to 2,342 tons in 1923, 1,008 tons 1924, 2,239 tons 1925, and about 60 tons in 1926. (6) Calculated from official import statistics of prinipal consumnig countries, viz., United States, United Kingdom, France, Germany, Italy, Belgium and Netherlands. This figure includes guayule rubber. (7) This total includes the third column for British Malaya, "Gross Exports minus Imports," and all the figures shown for the other territories. *Figure is provisional; final figure will be shown immediately it becomes available.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(*Long Tons*)

	United States*	United Kingdom	France (h)	Germany	Canada (ac)	Japan (ac)	Italy	Russia (ce)	Australia (cd)	Belgium (d)	Netherlands	Scandinavia (abcdf)	Spain (g)	Czechoslovakia (abcd)	World Total
1919	236,977	42,671	17,685	5,584	6,395	9,753	9,894	75	1,002	3,995	2,771	3,149	2,418	9	342,378
1920	248,762	56,844	13,885	11,890	11,746	5,297	6,123	62	1,815	3,840	5,510	2,292	2,008	567	370,641
1921	179,678	42,087	15,135	21,920	8,124	21,713	3,906	165	1,014	1,705	1,022	1,279	2,245	569	300,562
1922	296,267	11,724	24,352	27,546	9,207	15,934	6,430	2,493	2,643	172	–3,807	1,778	589	567	395,885
1923	300,372	12,700	27,392	18,519	13,277	15,372	8,489	2,986	2,184	792	2,528	630	1,128	408,018	
1924	317,747	–11,550	30,446	22,727	14,299	19,571	8,764	2,346	3,124	2,688	–807	3,178	944	1,370	414,847
1925	381,815	4,061	32,956	33,937	19,683	11,117	11,412	7,088	4,757	2,930	875	3,149	1,155	1,558	516,493
1926	395,667	84,865	34,240	22,775	20,229	18,125	9,809	6,529	9,021	2,498	2,670	4,046	1,299	1,870	613,643
1926:															
January	40,345	6,886	2,832	703	2,188	892	760	332	438	76	163	303	89	134	56,141
February	31,435	3,114	3,063	1,113	1,865	741	1,041	643	512	143	88	397	145	75	44,375
March	40,316	8,907	3,941	1,342	2,079	864	1,037	832	547	129	227	377	109	161	60,868
April	33,416	8,275	4,121	1,781	1,615	1,868	865	402	505	71	93	335	130	193	53,670
May	28,705	6,773	2,519	1,848	1,239	1,010	705	200	468	186	241	225	60	192	44,371
June	23,795	5,894	2,196	1,655	1,188	1,465	1,070	983	636	269	215	303	123	103	39,895
July	34,266	6,768	2,352	2,202	1,552	1,447	800	132	702	295	480	292	121	115	51,524
August	26,081	7,327	2,457	2,110	1,888	1,284	796	655	1,275	303	594	336	90	151	45,347
September	35,675	8,843	1,774	2,029	1,355	1,922	819	472	1,241	283	429	317	91	138	55,388
October	28,110	8,082	3,376	2,423	1,865	2,396	645	585	1,004	301	2	360	100	121	49,370
November	37,673	9,247	2,719	3,007	1,548	3,380	832	568	916	194	–18	358	90	181	60,695
December	35,850	4,749	2,890	2,562	1,847	856	439	725	777	248	156	443	151	306	51,999
1927:															
January	41,815	10,192	3,284	2,481	1,936	1,227	672	803	929	296	181	316	139	100	64,371
February	25,886	7,692	3,263	3,103	2,620	1,902	601	907	460	502	153	336	146	210	47,781
March	32,752	9,049	2,050	3,475	3,760	1,578	852	784	780	454	86	385	137	127	56,026
April	44,627	7,875	2,310	2,393	1,509	2,181	781	1,972	762	448	58	230	177	218	65,541
May	33,761	2,896	2,006	3,380	2,519	1,084	918	887	694	633	–57	335	155	223	49,434
June	31,270	2,282	2,387	3,632	2,086	798		1,506	557		–16				
July															
August															
September															
October															
November															
December															

a—Including gutta percha. b—Including balata. c—Re-exports not deducted in monthly statistics. d—Including some scrap and reclaimed rubber. e—United Kingdom exports to Russia. f—Including Norway, Sweden, Denmark and Finland. g—United Kingdom and French exports to Spain except in years prior to 1925. h—French imports have been reduced 12 per cent in order to eliminate imports of gutta percha and to reduce to basis of net weight. *United States imports of guayule are not included in this compilation; such imports amounted to 4,305 tons in 1926 and averaged about 400 tons monthly during the first six months of 1927.

BOOK REVIEWS

PAMPHLETS AND CIRCULARS

THE EXIT INTERVIEW. Published by the Metropolitan Life Insurance Company, New York. 23 Pages.

This is the second of a series of pamphlets on labor turnover in industry.

* * * *

U. S. GOVERNMENT MASTER SPECIFICATIONS. Published by the Department of Commerce. Government Printing Office, Washington, D. C. 1927. 17 Pages.

An alphabetical index and numerical list of master specifications promulgated by the Federal Specifications Board.

* * * *

AMERICAN ENGINEERING STANDARDS COMMITTEE YEARBOOK, 1927. Published by the A. E. S. Committee, New York. 80 Pages.

The 1927 yearbook of the American Engineering Standards Committee lists the standardization projects which had an official status before the Committee on December 31, 1926. The yearbook also contains a list of the societies cooperating with the Engineering Standards Committee, together with a survey of the year's work and a history of the various subcommittees.

* * * *

CALDWELL TANKS AND TOWERS. Published by W. E. Caldwell Co., Inc., Louisville, Ky. Thirty-eighth Annual Edition, 1927. 48 Pages.

This is the thirty-eighth annual edition of the catalog of the W. E. Caldwell Co., Inc., manufacturers of tanks and towers of wood and steel. The booklet is illustrated with cuts of the company's products.

* * * *

PETROLEUM STATISTICS, 1926. Published by the Department of Commerce, Bureau of Mines. Multigraphed. 9 Pages.

The Department of Commerce has just published the above mentioned petroleum summary for the year 1926. It is multigraphed on loose pages and contains statistics relative to petroleum imports, shipments, stocks and total world production.

* * * *

MALAYAN AGRICULTURAL JOURNAL. Published by the Malayan Department of Agriculture. May, 1927.

This issue of the Malayan Agricultural Journal contains the annual reports for 1926 of the heads of the divisions of the Malayan Department of Agriculture.

* * * *

AGING OF SOFT RUBBER GOODS. By R. F. Tener, W. H. Smith and W. L. Holt. Bureau of Standards Publication, Washington, D. C. Price 15 Cents.

The Bureau of Standards announces this technologic paper, which is given a key number of "T-342," as an addition to the Bureau's supplementary list of publications.

* * * *

RECORD BOOK OF BUSINESS STATISTICS, TEXTILES SECTION. Published by the Department of Commerce, Washington, D. C.

To aid business executives in analyzing tendencies in production, prices, stocks, exports, etc., in the textile field, the Commerce Department has just published the Textile Section of the Record Book of Business Statistics. The book contains statistics month by month from 1909 through 1926. It may be obtained from the Government Printing Office at a price of 10 cents per copy.

* * * *

AUTOMOBILREIFEN (AUTOMOBILE TIRES). By Gabriel Becker. Verlag von M. Krayn, Berlin, Germany. 1927. 95 Pages.

This booklet, bound in paper covers and published in German, contains a study of tires for trucks, buses and private automobiles, and covers every phase of usage and wear of balloon, cushion, and pneumatic tires. The booklet is amply illuminated with charts, diagrams and photographs.

* * * *

MONTHLY SUMMARY OF FOREIGN COMMERCE OF THE UNITED STATES. Published by the Department of Commerce. Government Printing Office, Washington, D. C. June, 1927. Part 2.

This monthly summary by the Commerce Department includes figures for June, 1927, and for six months ending June, 1927, which have been corrected to August 9, 1927.

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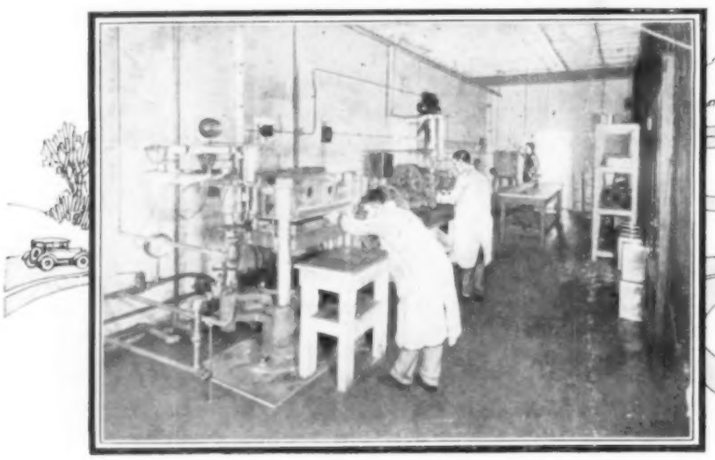

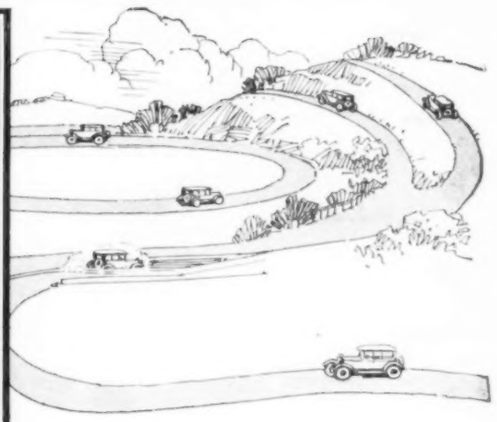

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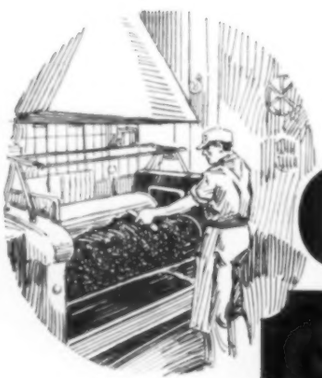

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